



Cat[®] 301.5

MINI EXCAVATOR

FEATURES:

The Cat[®] 301.5 Mini Excavator delivers power and performance in a compact size to help you work in a wide range of applications.

ALL DAY COMFORT

- Adjustable wrist rests and a suspension seat option 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 cleanup.

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 canopy 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.



301.5 Mini Excavator

Specifications

Engine

Engine Model	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 2400 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*	1580 kg	3,483 lb
Maximum Operating Weight with Canopy**	1775 kg	3,913 lb
EU: CE Plate Weight***	1740 kg	3,836 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	57 kg	126 lb
Expandable Undercarriage	129 kg	284 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	10.3 kN	2,315.5 lbf
Maximum Traction Force – Low Speed	16.0 kN	3,597.0 lbf
Ground Pressure – Minimum Weight	27.3 kPa	4.0 psi
Ground Pressure – Maximum Weight	30.6 kPa	4.4 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	22.0 L	5.8 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	213 bar	3,089.3 psi
Operating Pressure – Travel	213 bar	3,089.3 psi
Operating Pressure – Swing	103 bar	1,493.9 psi
Auxiliary Circuit – Primary		
Flow	33 L/min	8.7 gal/min
Pressure	213 bar	3,089.3 psi
Auxiliary Circuit – Secondary		
Flow	14 L/min	3.7 gal/min
Pressure	213 bar	3,089.3 psi
Digging Force – Stick (standard)	8.2 kN	1,843.4 lbf
Digging Force – Stick (long)	7.2 kN	1,616.4 lbf
Digging Force – Bucket	14.1 kN	3,169.8 lbf

Swing System

Machine Swing Speed	9.8 rpm
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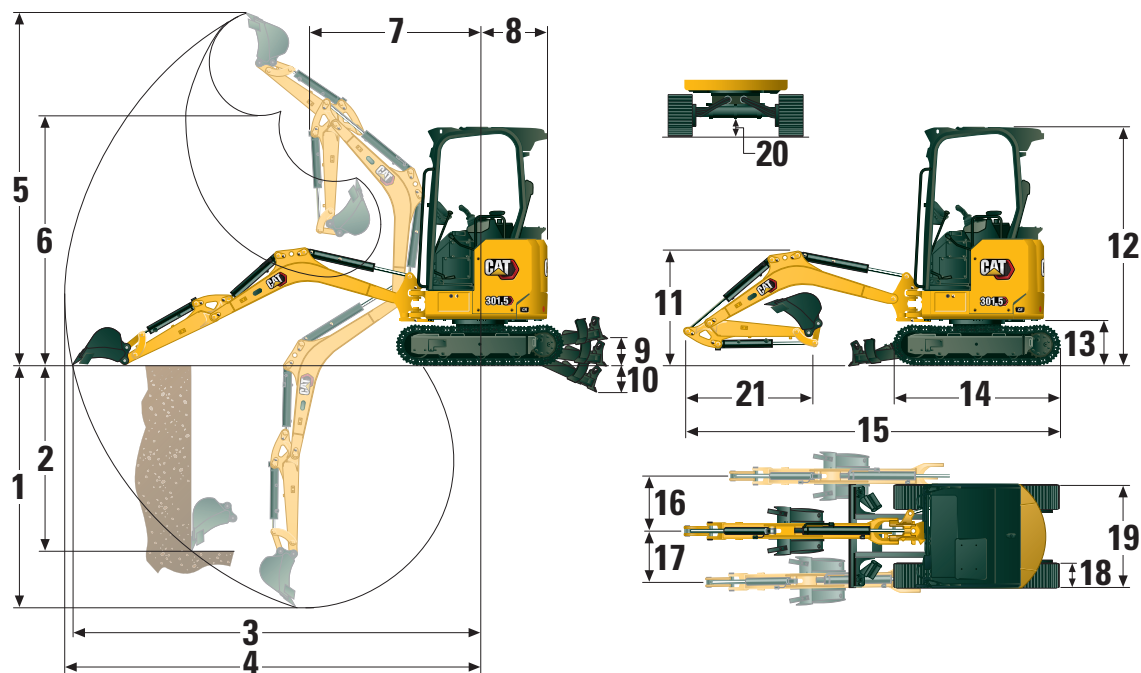
Blade

Width*	990 mm	39.0 in
Height	225 mm	8.9 in

*Expanded – 1300 mm (51 in)

Certification – 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	2340 mm (92.1 in)	2540 mm (100.0 in)
2 Vertical Wall	1800 mm (70.9 in)	1890 mm (74.4 in)
3 Maximum Reach at Ground Level	3730 mm (146.9 in)	3890 mm (153.1 in)
4 Maximum Reach	3800 mm (149.6 in)	3960 mm (155.9 in)
5 Maximum Dig Height	3430 mm (135.0 in)	3490 mm (137.4 in)
6 Maximum Dump Clearance	2450 mm (96.5 in)	2510 mm (98.8 in)
7 Boom in Reach	1460 mm (57.5 in)	1450 mm (57.1 in)
8 Tail Swing	820 mm (32.3 in)	820 mm (32.3 in)
9 Maximum Blade Height	275 mm (10.8 in)	275 mm (10.8 in)
10 Maximum Blade Depth	260 mm (10.2 in)	260 mm (10.2 in)
11 Boom Height in Shipping Position	1090 mm (42.9 in)	1040 mm (40.9 in)
12 Overall Shipping Height	2310 mm (90.9 in)	2310 mm (90.9 in)
13 Swing Bearing Height	445 mm (17.5 in)	445 mm (17.5 in)
14 Overall Undercarriage Length	1460 mm (57.5 in)	1460 mm (57.5 in)
15 Overall Shipping Length†	3620 mm (142.5 in)	3590 mm (141.3 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	155 mm (6.1 in)	155 mm (6.1 in)
21 Stick Length	960 mm (37.8 in)	1160 mm (45.7 in)

†Overall Shipping Length depends on blade position during shipment.

301.5 Mini Excavator

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)				242 (540)	290 (641)	182 (407)	2.9 (9.6)
	Long Stick	kg (lb)				218 (487)	230 (508)	164 (365)	3.1 (10.2)
1.5 m (4.9 ft)	Standard Stick	kg (lb)	384 (828)	384 (828)	324 (699)	212 (471)	283 (625)	159 (353)	3.2 (10.3)
	Long Stick	kg (lb)				194 (429)	227 (501)	144 (319)	3.3 (10.9)
1 m (3.3 ft)	Standard Stick	kg (lb)	412 (888)	584 (1,249)	303 (655)	198 (437)	289 (637)	147 (325)	3.3 (10.7)
	Long Stick	kg (lb)	415 (896)	495 (1,059)	306 (661)	181 (399)	234 (514)	134 (295)	3.4 (11.3)
0 m (0 ft)	Standard Stick	kg (lb)	379 (818)	704 (1,518)	273 (590)	197 (435)	343 (756)	146 (322)	3.2 (10.5)
	Long Stick	kg (lb)	375 (808)	703 (1,514)	269 (581)	179 (395)	277 (611)	131 (290)	3.4 (11.1)

*Minimum Weight includes rubber tracks, canopy, operator, full fuel tank, expanded 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)				269 (601)	290 (641)	290 (641)	2.9 (9.6)
	Long Stick	kg (lb)				230 (508)	230 (508)	230 (508)	3.1 (10.2)
1.5 m (4.9 ft)	Standard Stick	kg (lb)	384 (828)	384 (828)	384 (828)	237 (526)	283 (625)	272 (602)	3.2 (10.3)
	Long Stick	kg (lb)				217 (480)	227 (501)	227 (501)	3.3 (10.9)
1 m (3.3 ft)	Standard Stick	kg (lb)	456 (985)	584 (1,249)	522 (1,125)	222 (489)	289 (637)	254 (562)	3.3 (10.7)
	Long Stick	kg (lb)	459 (991)	495 (1,059)	495 (1,059)	203 (448)	234 (514)	234 (514)	3.4 (11.3)
0 m (0 ft)	Standard Stick	kg (lb)	424 (914)	704 (1,518)	489 (1,054)	222 (489)	343 (756)	255 (563)	3.2 (10.5)
	Long Stick	kg (lb)	419 (903)	703 (1,514)	484 (1,043)	202 (445)	277 (611)	233 (515)	3.4 (11.1)

**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	✓		Vinyl Suspension Seat		✓
Automatic Engine Shutdown	✓		Hydraulic Lockout – All Controls	✓	
Automatic Two Speed Travel	✓		Retractable High Visibility Seat Belt (75 mm/3 in)	✓	
Fuel Water Separator	✓		Seat Belt Reminder System		✓
Power on Demand (not available in all regions)	✓		Coat Hook	✓	
Variable Displacement Piston Pump	✓		Cup Holder	✓	
Load Sensing/Flow Sharing Hydraulics	✓		Storage Pocket	✓	
HYDRAULICS			Skylight	✓	
Smart Tech Electronic Pump	✓		Mounting Bosses for Front	✓	
Accumulator	✓		Signaling/Warning Horn	✓	
Automatic Swing Brake	✓		Boom Light, Halogen	✓	
Auxiliary Hydraulic Lines	✓		LED Front Lights		✓
One and Two Way Auxiliary Flow	✓		LED Front and Rear Lights		✓
Continuous Auxiliary Flow	✓		LED Boom Light		✓
Auxiliary Line Quick Disconnects	✓		Utility Space for Mobile Phone	✓	
OPERATOR ENVIRONMENT			Mirrors Left and Right		✓
Tilt-up Canopy	✓		Next Generation Color LCD Monitor (IP66)	✓	
Top Guard ISO 10262:1998 Level I	✓		– Fuel Level and Coolant Temperature Gauges	✓	
ROPS – ISO 12117-2:2008	✓		– Maintenance and Machine Monitoring	✓	
TOPS – ISO 12117:1997	✓		– Performance and Machine Adjustments	✓	
Machine 2-Point Lifting	✓		– Numeric Security Code	✓	
Stick Steer Mode	✓		– Multiple Languages	✓	
Travel Cruise Control	✓		– Hour Meter with Wake Up Switch	✓	
Control Pattern Changer (optional in some regions)	✓	✓	UNDERCARRIAGE		
Adjustable Wrist Rests	✓		Expandable Undercarriage	✓	
Washable Floor Mat	✓		Rubber Belt (230 mm/9 in wide)	✓	
Travel Pedals and Hand Levers	✓		Steel Track (230 mm/9 in wide)		✓
No Travel Pedals and Hand Levers		✓	Dozer Blade	✓	
Machine Security	✓		Dozer Blade Float	✓	
Standard Key with Pass Code	✓		Hydraulic Track Adjusters	✓	
Push to Start with Key Fob/Pass Code		✓	Tie Downs on Track Frame	✓	

(continued on next page)

301.5 Mini Excavator

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 (1780 mm/70 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	✓		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		✓	Polycarbonate Half Height Front Guard (Canopy only)		✓
Stick Lowering Check Valve		✓	Polycarbonate Front Guard (ISO 10262 1998 Level I and EN356 PSA)		✓
Hydraulic Quick Coupler Lines (not available in all regions)		✓	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).*

***Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.*

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 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	65.26
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.

301.5 Mini Excavator



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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AEHQ8144-07 (04-2024)
Replaces AEHQ8144-06
Build Number: 05A
(Global excluding
China and Japan)

