

307E2

Mini Hydraulic Excavator



Engine

Engine Model*	Cat® C2.4 Turbo
Net Power (ISO 9249)	37.7 kW 50.6 hp

*Engine meets U.S. EPA Tier 4 Final/EU Stage IIIB emission standards.

Weights

Operating Weight with Cab	7270 kg	16,028 lb
---------------------------	---------	-----------

Operating Specifications

Maximum Dig Depth	4070 mm	13'4"
-------------------	---------	-------

**High
performance
in a standard
tail swing
and fixed
boom design
for greater
versatility and
controllability.**



Contents

Operator Station.....	4
Performance and Controllability	5
COMPASS Control Panel	6
Undercarriage	8
Work Tools.....	9
Engine and Serviceability	10
Specifications.....	12
Standard Equipment.....	14
Optional Equipment.....	15



The Cat 307E2 Mini Hydraulic Excavator delivers superior performance and comfort while reducing your fuel consumption and operating costs. The large spacious cab provides a comfortable work area. Intuitive seat-mounted controls are easy to use for greater job accuracy and efficiency. The standard tail swing design incorporates a counterweight that extends further back on the machine. This provides leverage to create a stable work platform during lifting and digging. The 307E2 sets the standard for conventional tail swing excavators in the eight-ton size class.

Operator Station

Superior comfort to keep you productive throughout the work day.

Comfortable Working Environment

Spacious and comfortable operator station with excellent visibility and legroom keeps the operator comfortable and helps reduce fatigue. All hydraulic functions are fully pilot operated, lowering owning and operating costs and resulting in less downtime.

The operator station also features:

- Heated, air suspension seat
- COMPASS display panel
- Ergonomic joysticks
- Average exterior sound pressure 98 dB(A)
ISO 6395 – dynamic test



Performance and Controllability

Powerful digging combined with smooth responsive control.



High digging forces that provide power through even the most compacted ground, coupled with direct, smooth control through responsive hydraulics, ensure that the Cat 307E2 delivers the high productivity that customers demand.

Controllability

The Cat 307E2 front linkage has been perfectly balanced with the hydraulics to deliver the high level of control required for fine grading and landscaping applications.

- Automatic two speed function improves job site maneuverability by balancing high speed travel requirements and control.
- Joystick mounted auxiliary control enhances machine controllability. The intuitive controls give fine modulation.
- Auxiliary lines including quick connectors are fitted as standard, meaning the Cat 307E2 comes ready to work.
- Optional boom and stick lowering check valve includes integral overload warning device (available only in Europe).

High Definition Hydraulic System

- Delivers fuel savings, efficiency, controllability and precision.
- Industry leading variable displacement, load sensing, flow sharing system.

Lift Capacity

To meet the diverse needs of today's customer, the 307E2 with a standard tail swing offers outstanding stability when lifting and digging. Paired with a fixed boom the 307E2 provides superior reach and lift capacity.



COMPASS Control Panel

Complete, Operational, Maintenance, Performance and Security System.



The COMPASS control panel on the Cat E2 Series mini hydraulic excavators was specifically designed by Caterpillar for compact excavators. It adds several new features to the machines increasing the amount of customer value. All of the following features are standard on all E2 Series models.

Complete – All of the control panel features are standard on all E2 Series models

Operation – Simple operation of the pattern changer, hydraulic quick coupler and fuel gauge visibility all at the push of a button

Maintenance – Maintenance intervals, diagnostics and work hours

Performance – Maintain optimum performance levels with adjustable work tool flow features

And

Security – Anti theft device with individual user and master passwords

System – Ergonomically designed control panel



Passcode Protected Security System

A standard anti-theft device comes on every E2 Series compact excavator. A five digit alphanumeric password is required to start the machine when the anti-theft feature is enabled. There is a master password and up to five user passwords can be created by the owner if desired.

Keep your machine safe on a busy job site by locking it when you are not around.



Adjustable Auxiliary Work Tool Flow Control

The E2 Series machines feature simple adjustability of the flow going down the boom and stick to the work tool. Both the standard main line and optional secondary auxiliary hydraulics can be adjusted on a scale of 1–15 through a few buttons on the control panel.

Adjust the flow to your different tools with a simple push of a button.



UNLOCK the new features and experience the value of the exclusive COMPASS control panel on the Cat E2 Series compact excavators

Rearview Camera

Increase operator productivity and efficiency with enhanced visibility with the rearview camera.

Work more confidently with greater visibility.

Continuous Flow

Once this feature is enabled through a button on the monitor, the E2 Series machines can run in continuous flow mode. With the auxiliary hydraulics on the right hand joystick, just hold the roller switch at the desired flow rate and direction for 2.5 seconds and the machine will maintain that flow rate until it is turned off.

Maintain hydraulic flow to your tools at any flow and in any direction with the simple push of a button.

Pattern Changer

Change the operating pattern between excavator and backhoe with a simple press of a button from the comfort of the cab. (Optional in Europe)

Exclusive push button pattern changer is safe and easy.

Maintenance and Performance Information

Easily keep track of various maintenance and performance parameters of your machine.

Reset the maintenance intervals and ensure the machine is receiving proper care maximizing the life of the machine.

Site Reference System

Output from pitch and roll sensors aid in grading and level trenching for improved efficiency and job site finishing.

Finish the job faster with site information.



Undercarriage

Excellent stability.

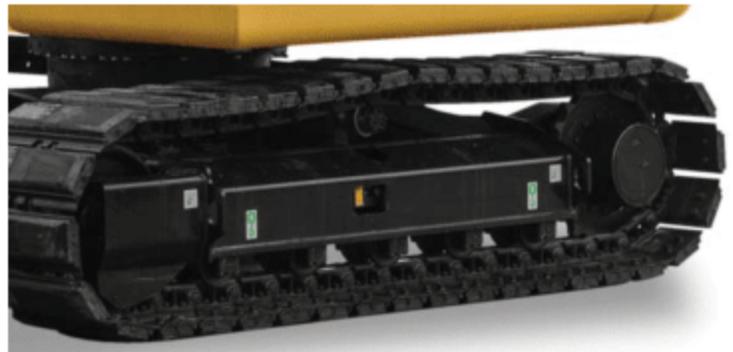
Depending on the customer's application, the Cat 307E2 has two track options, allowing the correct machine configuration to suit the job.

Steel Track

The 450 mm (18 in) triple grouser steel track is good for demolition and heavy duty applications.

Steel Track with Rubber Pads

The 450 mm (18 in) wide shoe has four holes to attach the rubber pads to the steel track shoes. This option prevents damage to paved road surfaces and minimizes noise and vibration during travel while providing maximum stability.



Blade Widths

The dozer blade is an important and useful tool for the Hydraulic Mini Excavator used for backfilling trenches, levelling, landscaping and site clean up.

The blade comes standard with a replaceable weld-on dozer cutting edge constructed of hardened steel for longer life.

Tie Down Points

Large oval tie down points are located in two positions on the undercarriage for easy and safe machine tie down for transportation.



Work Tools

Matched to meet your application needs.

Wide Range of Work Tools

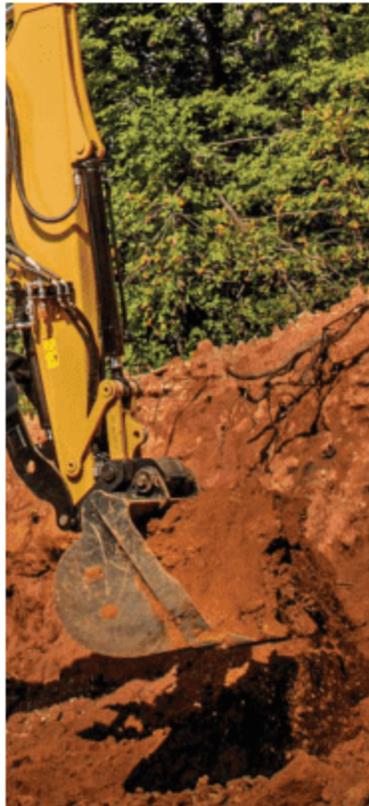
A wide range of Cat Work Tools have been designed specifically to get the best out of your machine and deliver excellent value through high productivity and long life.

Available work tools include:

- Buckets (heavy duty and heavy duty capacity)
- Tilting and Swing Ditch Cleaning Buckets
- Hydraulic Hammers
- Augers
- Vibratory Compactors
- Rippers
- Dual Lock Mechanical Coupler
- Tilting Coupler Hydraulic Coupler

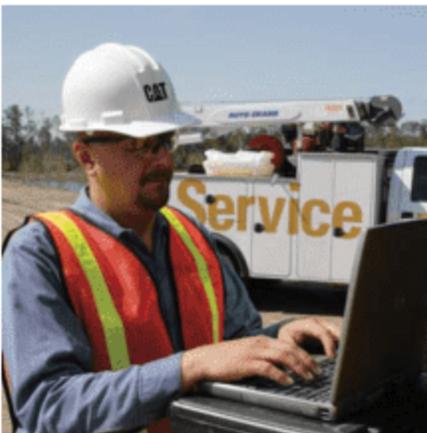
To maximize performance and productivity, Cat mechanical and hydraulic quick couplers are compatible with all standard work tools, enabling the operator to simply release one work tool and pick up another.

One-way flow (hammer) and two-way flow (auger) auxiliary lines with quick connectors are fitted as standard. This allows the machine to adapt to a wide variety of applications without re-configuring the auxiliary lines. Versatility is further enhanced with the option of a second auxiliary supply (for a rotating grapple).



Engine and Serviceability

Superior power with easy access and minimal maintenance requirements keep you working.



Customer Support

Your Cat dealer is ready to assist you with your purchase decision and everything after.

- Financing packages are flexible to meet your needs
- Unmatched parts availability keeps you working
- Make comparisons of machines, with estimates of component life, preventative maintenance and cost of production
- For more information on Cat products, dealer services and industry solutions, visit [\[redacted\]](#)



Engine

The Cat C2.4 electronic engine delivers quiet operation with superior power and fuel efficiency while meeting Tier 4 Final/Stage IIIB emission standards.

Easy Service

Convenient service features make maintenance easy, reducing your downtime:

- Lifting side hood allows access to air filter, main implement valve, 1-way/2-way auxiliary flow selector, accumulator, fuel filter and hydraulic tank. This eliminates the need to lift the cab when maintaining and servicing the machine.
- Swing open door provides access to major components and service points including engine oil check and fill, vertically mounted engine oil filter, starter motor and alternator.
- S-O-SSM oil sampling valve allows easy sampling of the hydraulic fluid for preventative maintenance.
- The 307E2 is Product LinkTM ready and the Cat Product Link system simplifies equipment fleet tracking. Using satellite or cellular technology, the system automatically reports information such as location, machine hours, active and logged service codes and security alarms.

Power on Demand

Automatic system ensures optimal fuel efficiency through appropriate engine rating to meet all operational requirements as needed.

Auto Engine Shutdown

Engaging this feature allows the operator to save fuel by powering down the machine after a designated inactive period. The operator can adjust the range from 1-15 minutes to meet their needs. The system will only shut down after the set time, provided the hydraulic lever is up. Electronics will remain powered after shutdown.

307E2 Mini Hydraulic Excavator Specifications

Engine

Engine Model	Cat C2.4 Turbo*	
Rated Net Power @ 2,200 rpm		
ISO 9249/EEC 80/1269	37.7 kW	50.6 hp
Gross Power		
ISO 14396	39.6 kW	53.1 hp
Bore	87 mm	3.4 in
Stroke	102.4 mm	4.0 in
Displacement	2.4 L	146.5 in ³

* Meets Tier 4 Final/Stage IIIB emission standards.

Weights

Operating Weight with Cab	7270 kg	16,028 lb
---------------------------	---------	-----------

- Weight with steel tracks with rubber pads, bucket, operator (75 kg/165 lb), full fuel and auxiliary lines.
- Weight varies depending on machine configuration.

Swing System

Machine Swing Speed	10.2 rpm
---------------------	----------

- Automatic swing break, spring applied, hydraulic release.

Travel System

Travel Speed		
High	5.1 km/h	3.17 mph
Low	3.2 km/h	1.99 mph
Maximum Traction Force		
High Speed	33.8 kN	7,599 lbf
Low Speed	59.3 kN	13,331 lbf
Gradeability (maximum)	20°	
Ground Pressure	33.9 kPa	4.92 psi

- Each track is driven by one independent 2-speed motor.
- Drive modules are integrated into the roller frame for total protection.
- Straight line travel when tracking and operating the front linkage simultaneously.

Service Refill Capacities

Fuel Tank	135 L	35.7 gal
Cooling System	14 L	3.7 gal
Engine Oil	11.0 L	2.9 gal
Hydraulic Tank	51 L	13.5 gal
Hydraulic System	78 L	20.6 gal

Hydraulic System

Pump Flow at 2,000 rpm	154 L/min	40.9 gal/min
Operating Pressure – Equipment	28 000 kPa	4,061 psi
Operating Pressure – Travel	28 000 kPa	4,061 psi
Operating Pressure – Swing	28 000 kPa	4,061 psi
Auxiliary Circuit – Primary (280 bar/4,061 psi)	128 L/min	33.8 gal/min
Auxiliary Circuit – Secondary (280 bar/4,061 psi)	33 L/min	8.7 gal/min
Digging Force – Stick (standard)	37.1 kN	8,340 lbf
Digging Force – Bucket	50.6 kN	11,375 lbf

- Load sensing hydraulics with variable displacement piston pump.

Blade

Width	2300 mm	90.6 in
Height	445 mm	17.5 in
Dig Depth	390 mm	15.3 in
Lift Height	350 mm	13.8 in

Cab

Average Exterior Sound Pressure	98 dB(A) ISO 6395 – Dynamic Test
---------------------------------	----------------------------------

Operating Specifications

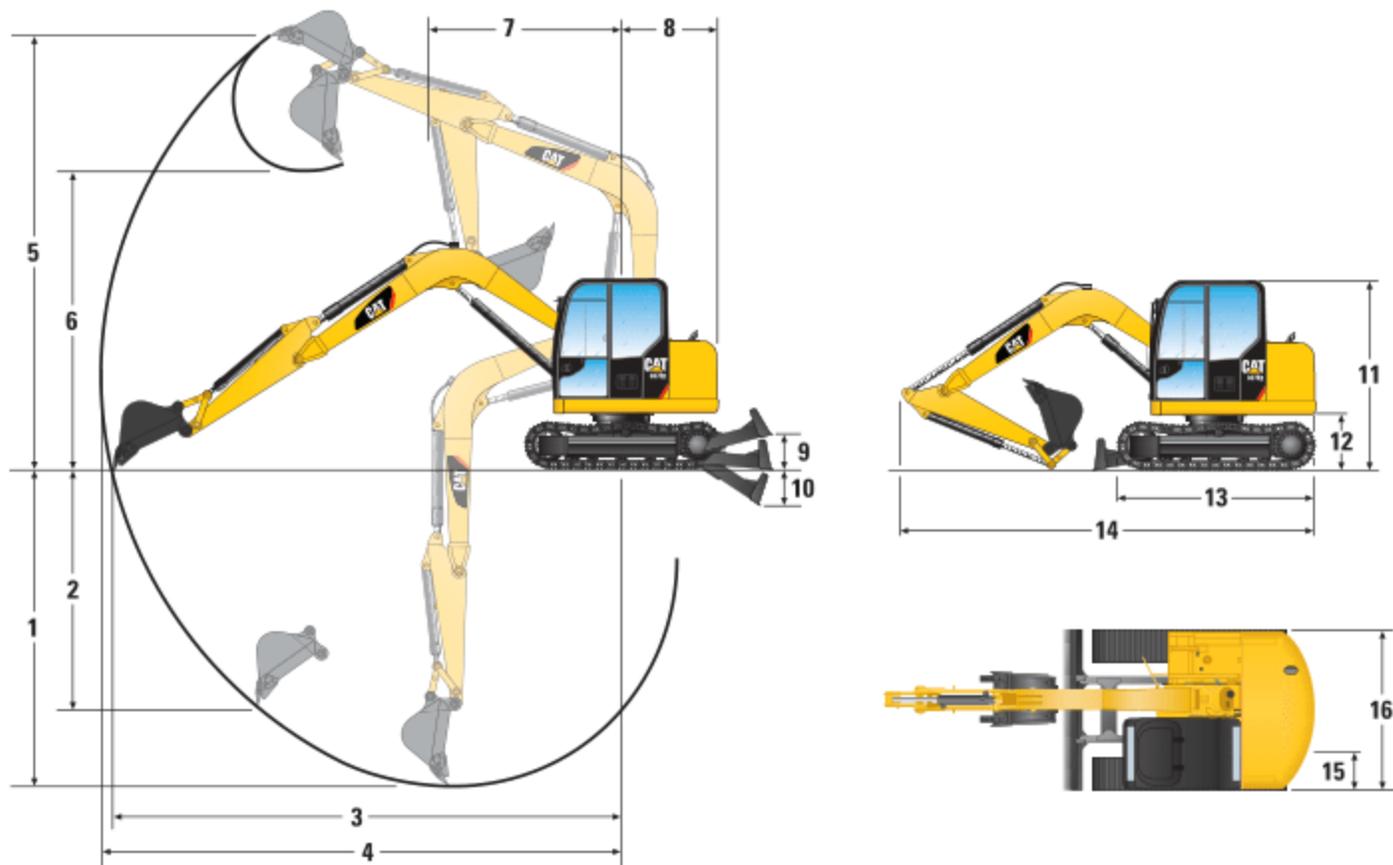
Stick Length – Standard	1670 mm	5 ft 6 in
Machine Overhang	358 mm	1 ft 2 in

Undercarriage

Number of Carrier Rollers	1 per side
Number of Track Rollers	5 per side
Track Roller Type	Center flange

307E2 Mini Hydraulic Excavator Specifications

Dimensions



	Standard Stick	
1 Dig Depth	4070 mm	13'4"
2 Vertical Wall	3630 mm	11'11"
3 Maximum Reach at Ground Level	6160 mm	20'3"
4 Maximum Reach	6300 mm	20'8"
5 Maximum Dig Height	7240 mm	23'9"
6 Maximum Dump Clearance	5190 mm	17'3"
7 Boom In Reach	1690 mm	5'7"
8 Tail Swing (standard counterweight)	1750 mm	5'9"
9 Maximum Blade Height	390 mm	1'3"

	Standard Stick	
10 Maximum Blade Depth	350 mm	1'2"
11 Boom Height in Shipping Position	2630 mm	8'8"
O/A Shipping Height	2630 mm	8'8"
12 Swing Bearing Height	775 mm	2'7"
13 O/A Undercarriage Length	2760 mm	8'9"
14 O/A Shipping Length	6080 mm	19'11"
15 Track Belt/Shoe Width	450 mm	1'6"
16 O/A Track Width	2200 mm	7'3"

Lift Capacities at Ground Level (Standard Stick)*

Lift Point Radius		3000 mm (9'8")		4000 mm (13'1")		5000 mm (16'5")		5390 mm (17'8")	
		Front	Side	Front	Side	Front	Side	Front	Side
Blade Down	kg	3560	2410	2600	1520	2070	1120	1010	990
	lb	7,849	5,313	5,732	3,351	4,564	2,469	2,227	2,183
Blade Up	kg	2470	2120	1540	1350	1120	990	990	880
	lb	5,445	4,674	3,395	2,976	2,469	2,183	2,183	1,940

* The above loads are consistent 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 Equipment

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

ENGINE

- Cat C2.4 diesel engine (meets Tier 4 Final/ Stage IIIB emission standards)
- Automatic engine idle
- Automatic engine shut-off
- Automatic two speed travel
- Diesel Particulate Filter (North America only)
- Diesel Oxidation Catalyst (North America only)
- Fuel and water separator
- Power on demand

HYDRAULIC SYSTEM

- 1-way and 2-way (combined function)
- Accumulator
- Automatic swing parking brake
- Auxiliary hydraulic lines
- Adjustable auxiliary relief
- Auxiliary line quick disconnects
- Boom lowering check valve (available only in Europe)
- Cat interlock system: hydraulic lockout
- Continuous auxiliary flow
- Ecology drain
- Hydraulic oil cooler
- High definition hydraulics
- Load sensing/flow sharing
- Quick coupler lines
- Secondary auxiliary hydraulic lines
- Stick lowering check valve (available only in Europe)

OPERATOR ENVIRONMENT

- 100% pilot control ergonomic joysticks
- Adjustable armrests
- Air conditioning/heat
- COMPASS: complete, operation, maintenance, performance and security system
 - Multiple languages
- Cup holder
- High back suspension seat, heated
- Hydraulic neutral lockout bar
- Interior light
- Literature holder
- Pattern changer (optional in Europe)
- Radio (optional in Europe)
- Site reference system: leveling
- Tool storage area
- Travel control pedals with hand levers
- Washable floor mat
- Windshield wiper

UNDERCARRIAGE

- Dozer blade with float function
- Tie down eyes on track frame
- Towing eye on base frame

FRONT LINKAGE

- 180 degree bucket rotation
- Certified lifting eye on bucket linkage (optional in Europe)
- Front shovel capable
- Thumb ready stick

ELECTRICAL

- 12 volt electrical system
- 60 ampere alternator
- 650 CCA maintenance free battery
- Fuse box
- Ignition key start/stop switch
- Slow blow fuse
- Warning horn

LIGHTS AND MIRRORS

- Cab and boom light with time delay capability
- Mirror, rearview, cab left

SAFETY AND SECURITY

- Anti-theft system (COMPASS)
- Battery disconnect
- Caterpillar Corporate "One Key" System
- Door locks
- Lockable fuel cap
- Rearview camera
- Retractable seat belt
- Roll Over Protective Structure (ROPS) (ISO 12117-2)
- Tip Over Protective Structure (TOPS) (ISO 12117)
- Top guard – ISO 10262 (Level II)
- Travel alarm (optional in Europe)

Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

ENGINE

- Engine block heater

UNDERCARRIAGE

- Track, triple grouser (steel), 450 mm (18 in)
- Track, triple grouser (steel) with rubber pad, 450 mm (18 in)

FRONT LINKAGE

- Quick coupler: manual or hydraulic
- Thumb
- Buckets
- Full range of performance matched work tools
 - Auger, hammer, shear, ripper

LIGHTS AND MIRRORS

- Mirror, cab rear

SAFETY AND SECURITY

- Front wire mesh guard
- Front steel plate guard
- Rain guard

TECHNOLOGY

- Product Link

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [REDACTED]

AEHQ7915 (08-2016)

© 2016 Caterpillar
All rights reserved

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

CAT, CATERPILLAR, [REDACTED], their respective logos, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.



EFTA00794848