



# Cat<sup>®</sup> 309 CR

## MINI HYDRAULIC EXCAVATOR

### FEATURES:

The Cat<sup>®</sup> 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 dig-to-blade 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 |                     |
| <b>Rated Net Power @ 2,200 rpm</b> |           |                     |
| U.S. EPA Tier 4 Final              | 52.4 kW   | 70.3 hp             |
| EU Stage V                         | 53.3 kW   | 71.5 hp             |
| ISO 9249/EEC 80/1269               |           |                     |
| <b>Gross Power</b>                 |           |                     |
| ISO 14396                          | 55.4 kW   | 74.3 hp             |
| Bore                               | 94 mm     | 3.7 in              |
| Stroke                             | 120 mm    | 4.7 in              |
| Displacement                       | 3.33 L    | 203 in <sup>3</sup> |

### Weights

|                                     |         |           |
|-------------------------------------|---------|-----------|
| Minimum Operating Weight with Cab*  | 8756 kg | 19,304 lb |
| Maximum Operating Weight with Cab** | 9403 kg | 20,731 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. For specifications representing a 309 CR with a Standard Undercarriage, please refer to the 308 CR information.



# 309 CR Mini Hydraulic Excavator

## 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    | 38 kPa     | 6 psi      |
| Ground Pressure – Maximum Weight    | 40.8 kPa   | 6 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 | 107 L  | 28 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 – Primary (High Flow)                        |           |            |
| Flow   | 140 L/min | 37 gal/min |
| Pressure   | 285 bar   | 4,134 psi  |
| Auxiliary Circuit – Secondary                                  |           |            |
| Flow   | 33 L/min  | 9 gal/min  |
| Pressure   | 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 |

## Swing System

|                     |          |
|---------------------|----------|
| Machine Swing Speed | 10.6 rpm |
|---------------------|----------|

## Blade

|                  |         |          |
|------------------|---------|----------|
| Width (Standard) | 2470 mm | 97.2 in  |
| Width (Wide)     | 2640 mm | 103.9 in |
| Height           | 431 mm  | 17 in    |

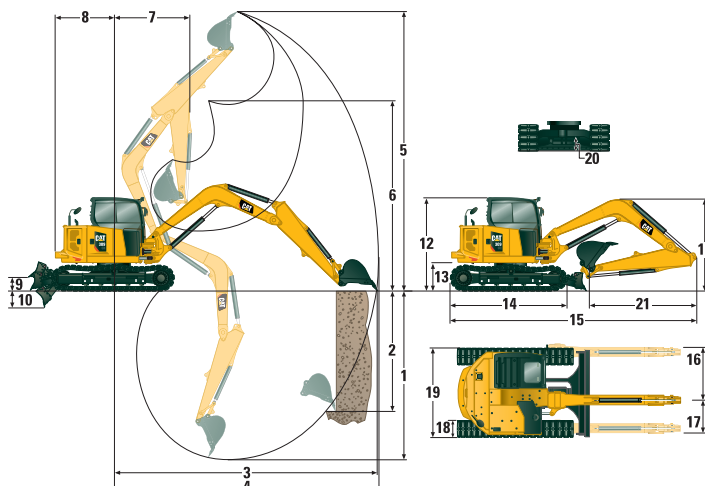
## Certification – Cab

|                                       |                           |
|---------------------------------------|---------------------------|
| 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<br>(ISO 6396:2008)         | 72 dB(A) |
| Average Exterior Sound Pressure<br>(ISO 6395:2008) | 99 dB(A) |

• European Union Directive “2000/14/EC”



## Dimensions

|                                  | Standard Stick     | Long Stick         |
|----------------------------------|--------------------|--------------------|
| 1 Dig Depth                      | 4115 mm (162.0 in) | 4650 mm (183.1 in) |
| 2 Vertical Wall                  | 2998 mm (118.0 in) | 3411 mm (134.3 in) |
| 3 Maximum Reach at Ground Level  | 6951 mm (273.6 in) | 7462 mm (293.8 in) |
| 4 Maximum Reach                  | 7140 mm (281.1 in) | 7637 mm (300.7 in) |
| 5 Maximum Dig Height             | 6729 mm (264.9 in) | 7032 mm (276.8 in) |
| 6 Maximum Dump Clearance         | 4753 mm (187.1 in) | 5065 mm (199.4 in) |
| 7 Boom in Reach                  | 3058 mm (120.4 in) | 3215 mm (126.6 in) |
| 8 Tail Swing with Counterweight  | 1645 mm (64.8 in)  | 1645 mm (64.8 in)  |
| Tail Swing without Counterweight | 1450 mm (57.1 in)  | 1450 mm (57.1 in)  |
| 9 Maximum Blade Height           | 342 mm (13.5 in)   | 342 mm (13.5 in)   |
| 10 Maximum Blade Depth           | 684 mm (26.9 in)   | 684 mm (26.9 in)   |
| 11 Transport Height              | 2487 mm (97.9 in)  | 2514 mm (99.0 in)  |
| 12 Cab Height                    | 2514 mm (99.0 in)  | 2514 mm (99.0 in)  |
| 13 Swing Bearing Height          | 729 mm (28.7 in)   | 729 mm (28.7 in)   |
| 14 Overall Undercarriage Length  | 3200 mm (126.0 in) | 3200 mm (126.0 in) |
| 15 Overall Shipping Length       | 6578 mm (259.0 in) | 6662 mm (262.3 in) |
| 16 Boom Swing Right              | 935 mm (37 in)     | 935 mm (37 in)     |
| 17 Boom Swing Left               | 604 mm (24 in)     | 604 mm (24 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              | 343 mm (13.5 in)   | 343 mm (13.5 in)   |
| 21 Stick Length                  | 1823 mm (71.8 in)  | 2358 mm (92.8 in)  |

## 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 CO<sub>2</sub> equivalent of 1.430 metric tonnes.

# 309 CR Mini Hydraulic Excavator

## Lift Capacities – Minimum Configuration\*†

| 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) |              |              |              | 2332 (5,141)    | 2332 (5,141) | 1971 (4,345) | 2008 (4,427)                | 2008 (4,427) | 1502 (3,311) | 5.29 (17.4) |
|                   | Long Stick     | kg (lb) |              |              |              |                 |              |              | 1521 (3,353)                | 1521 (3,353) | 1261 (2,780) | 5.89 (19.3) |
| 3 m (9.8 ft)      | Standard Stick | kg (lb) |              |              |              | 2683 (5,915)    | 2683 (5,915) | 1907 (4,204) | 1472 (3,245)                | 1472 (3,245) | 1197 (2,639) | 6.04 (19.8) |
|                   | Long Stick     | kg (lb) |              |              |              | 2302 (5,075)    | 2302 (5,075) | 1925 (4,244) | 1281 (2,824)                | 1281 (2,824) | 1037 (2,286) | 6.56 (21.5) |
| 1.5 m (4.9 ft)    | Standard Stick | kg (lb) |              |              |              | 2242 (4,943)    | 2242 (4,943) | 1789 (3,944) | 1359 (2,996)                | 1359 (2,996) | 1101 (2,427) | 6.27 (20.6) |
|                   | Long Stick     | kg (lb) |              |              |              | 2246 (4,952)    | 2246 (4,952) | 1790 (3,946) | 1190 (2,623)                | 1190 (2,623) | 960 (2,116)  | 6.76 (22.2) |
| 0 m (0 ft)        | Standard Stick | kg (lb) | 3739 (8,243) | 3739 (8,243) | 3087 (6,806) | 2149 (4,738)    | 2149 (4,738) | 1703 (3,754) | 1405 (3,097)                | 1405 (3,097) | 1133 (2,498) | 6.04 (19.8) |
|                   | Long Stick     | kg (lb) | 3907 (8,613) | 3907 (8,613) | 3044 (6,711) | 2122 (4,678)    | 2122 (4,678) | 1675 (3,693) | 1219 (2,687)                | 1218 (2,685) | 978 (2,156)  | 6.56 (21.5) |

\*Minimum Weight includes steel tracks, no counterweight, operator, full fuel tank, standard stick, blade and no bucket.

## Lift Capacities – Maximum Configuration\*\*†

| 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) |              |              |              | 2333 (5,143)    | 2333 (5,143) | 2333 (5,143) | 2004 (4,418)                | 2004 (4,418) | 1660 (3,660) | 5.32 (17.4) |
|                   | Long Stick     | kg (lb) |              |              |              |                 |              |              | 1519 (3,349)                | 1519 (3,349) | 1519 (3,349) | 5.91 (19.4) |
| 3 m (9.8 ft)      | Standard Stick | kg (lb) |              |              |              | 2695 (5,941)    | 2695 (5,941) | 2113 (4,658) | 1962 (4,325)                | 1640 (3,616) | 1336 (2,945) | 6.05 (19.8) |
|                   | Long Stick     | kg (lb) |              |              |              | 2314 (5,101)    | 2314 (5,101) | 2314 (5,101) | 1490 (3,285)                | 1490 (3,285) | 1164 (2,566) | 6.57 (21.5) |
| 1.5 m (4.9 ft)    | Standard Stick | kg (lb) |              |              |              | 3324 (7,328)    | 2496 (5,503) | 1995 (4,398) | 2128 (4,691)                | 1523 (3,358) | 1237 (2,727) | 6.27 (20.6) |
|                   | Long Stick     | kg (lb) |              |              |              | 3036 (6,693)    | 2500 (5,512) | 1995 (4,398) | 1594 (3,514)                | 1339 (2,952) | 1084 (2,390) | 6.76 (22.2) |
| 0 m (0 ft)        | Standard Stick | kg (lb) | 3784 (8,342) | 3784 (8,342) | 3784 (8,342) | 3585 (7,904)    | 2404 (5,300) | 1910 (4,211) | 2342 (5,163)                | 1581 (3,486) | 1279 (2,820) | 6.03 (19.8) |
|                   | Long Stick     | kg (lb) | 3923 (8,649) | 3923 (8,649) | 3923 (8,649) | 3505 (7,727)    | 2377 (5,240) | 1881 (4,147) | 1871 (4,125)                | 1376 (3,034) | 1110 (2,447) | 6.55 (21.5) |

\*\*Maximum Weight includes steel tracks with rubber pads, counterweight, operator, full fuel tank, long stick, blade and no bucket.

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

For lift capacity specifications representing a 309 CR with a Standard Undercarriage, please refer to the 308 CR information.

# 309 CR Mini Hydraulic Excavator

## EQUIPMENT

### ENGINE

- Cat C3.3B Diesel Engine (U.S. EPA Tier 4 Final/ EU Stage V) – Electronic Engine, Turbo, Diesel Particulate Filter (DPF)
- Automatic Engine Idle
- Automatic Engine Shutdown
- Automatic Swing Brake
- Automatic Two Speed Travel
- Fuel Water Separator with Indicator
- Radial Seal – Double Element Air Filter
- Extended Life Coolant, –37° C (–35° F)
- Ecology Drain

### HYDRAULICS

- Smart Tech Electronic Pump
- Variable Displacement Piston Pump
- Load Sensing/Flow Sharing Hydraulics
- Power On Demand
- Hydraulic Temperature Monitoring
- Certified Accumulator
- Hydro Advanced Hydraulic Oil

### OPERATOR ENVIRONMENT

- Sealed and Pressurized Cab
- Operator Sound Pressure 72 dB(A) ISO 6396:2008
- Stick Steer Mode
- Travel Cruise Control
- Control Pattern Changer
- Adjustable Wrist Rests
- Molded Footrests
- Removable, Washable Floor Mat

- Travel Pedals and Hand Levers
- Cat Key with Passcode Option
- HVAC with Automatic Temperature Control
- Hydraulic Lockout Controls
- Integrated Lower Front Window
- Assisted Front Window Overhead Storage
- Rear Window Emergency Exit
- Fabric, High Back, Suspension Seat
- Retractable Seat Belt (75 mm/3 in)
- Coat Hook
- Cup Holder
- LED Interior Light
- Literature Holder
- 12V Power Socket
- Radio – Bluetooth®, USB, Auxiliary, Microphone
- Skylight
- Mounting Bosses for Top and Front Guards
- ROPS – ISO 12117-2:2008
- TOPS – ISO 12117:1997
- Top Guard – ISO 10262:1998 (Level II)
- Color LCD Monitor
  - Fuel Level and Coolant Temperature Gauges
  - Maintenance and Machine Monitoring
  - Performance and Machine Adjustments
  - Numeric Security Code
  - Multiple Languages
  - Camera Ready
  - Hour Meter with Wake Up Switch
  - Jog Dial Control Interface

### UNDERCARRIAGE

- Greased and Lubricated Track
- Hydraulic Track Adjusters
- Tie Down Eyes on Track Frame
- Dozer Blade
- Dozer Float
- Bolt-on, Reversible Wear Edge
- Steel Tracks (450 mm/17.7 in wide)

### BOOM, STICK AND LINKAGES

- One Piece Boom (3400 mm/133.9 in)
- Standard Stick (1820 mm/71.7 in)
- Long Stick (2360 mm/92.9 in)
- Front Shovel Capable (Pin-On/ Manual Coupler/Hydraulic Coupler – not available in all regions)
- Thumb Ready (not available in all regions)
- Certified Lifting Eye (not available in all regions)

### ELECTRICAL

- 12 Volt Electrical System
- 90 Ampere Alternator
- 850 CCA Maintenance Free Battery
- Circuit Breaker
- Ignition Key Stop Switch
- Signaling/Warning Horn
- Product Link™ Elite Lite (regulations apply)
- Travel Alarm

## OPTIONAL EQUIPMENT

### OPERATOR ENVIRONMENT

- Rain Visor
- Air Suspension Heated Seat

### ELECTRICAL

- Rearview Camera
- Rotating Beacon

### OTHER

- Attachments including Buckets, Augers and Hammers
- Wide Steel Tracks (600 mm/23.6 in)
- Wide Dozer Blade
- 2nd Auxiliary Hydraulic Lines
- Additional Counterweight
- Boom and Stick Hose Burst Check Valves

- Bucket Linkage with Lift Eye
- Track Guides
- Water Jacket Heater
- Refueling Pump
- Variable Angle Boom (please see 309 CR VAB brochure for VAB specs and additional information)
- Cab Guarding

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com)

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