

# M319

## WHEELED EXCAVATOR



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Engine Power – ISO 14396	129.4 kW (174 hp)
Operating Weight Maximum	21 050 kg (46,407 lb)
Maximum Travel Speed	35 kl/h (21.7 mile/h)



# M319

## WHEELED EXCAVATOR

The Cat® M319 Wheeled Excavator provides top performance to get the job done faster. Save time and money with low maintenance costs, longer service intervals, and 100 percent daily ground level maintenance. The M319 gives you the power to work longer while putting money in your pocket.



### INCREASED PERFORMANCE

Work faster with more swing torque. A smaller front and reduced tail swing radius lets you work in space-restricted areas.

### LOW OWNING AND OPERATING COSTS

Longer, synchronized service intervals, 100% daily ground-level maintenance and centralized grease points with an autolube option lower your overall costs.

### ENHANCED COMFORT

Operate with ease. Easy to reach controls, a comfortable seat, and improved visibility let you work comfortably all shift long.

# LATEST FEATURES



- Cab Monitor Improvements
  1. Continuously improved user interface allows for intuitive navigation, minimizing performance interruption with the easy-to-use touchscreen menu.
  2. Identify apps quickly with a grid list view, abbreviated app names, and categorized menu options.
  3. A new notification center keeps important information visible to the operator, and displays messages without shrinking the camera view.
  4. Color coded notifications set critical messages apart from the rest.
  5. Use the in-monitor QR code to learn about machine and technology features through a full suite of “how-to” videos.
- Enhance visibility to make service work easier and safer with optional inspection lighting.
- Standard integrated vehicle health management system alerts the operator with service guidance and parts needed to enhance uptime.

***Not all features are available in all regions. Please check with your local Cat dealer for specific offering availability in your area. Build Number: 07D***

# HIGH PERFORMANCE WITH LOWER FUEL CONSUMPTION

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- The Cat engine matches to your performance and production needs. The engine meets U.S. EPA Tier 4 Final and EU Stage V emission standards.
- Enjoy lower fuel consumption throughout the life of the machine.
- Work confidently in space-restricted areas. Dig, swing, and dump within a tight working space.
- Travel between sites easier with travel speeds up to 35 kph (21.7 mph).
- From dirt to asphalt, the excavator matches your needs to get the job done in a timely, efficient manner.
- The advanced hydraulic system provides the optimum balance of power and efficiency while giving you the control you need for precise working requirements.
- With increased swing torque, you can get the job done faster to move on to the next one. The dedicated swing pump provides consistent power for better multitasking capabilities.
- Auxiliary hydraulic options give you the versatility to use a wide range of Cat attachments.
- Don't let the temperature stop you from working. The excavator has a standard high-ambient temperature capability of 52 °C (125 °F) and cold start capability of -18 °C (0 °F).





# WORK IN COMFORT



- Choose between Deluxe and Premium cab options.
- The Deluxe seat is heated and air adjustable while the Premium seat is heated, ventilated, and adjusts automatically.
- Get in and out of the cab easier using the tip-up left console.
- Feel more comfortable in the cab while you work with reduced cab vibrations from advanced viscous mounts.
- Control the excavator comfortably with easy-to-reach controls, all located in front of you.
- Stow your gear with plenty of in-cab storage beneath and behind the seat, overhead, and in the consoles. A cup holder, bottle holder, and coat hook are also provided.
- Bluetooth® integrated radio allows for seamless mobile phone connection to listen to music, podcasts, and hands-free calling.
- Easily adjust to your ideal temperature with the touchscreen monitor or jog dial.

# LOWER MAINTENANCE COSTS

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- Quickly check and service your machine with daily maintenance points accessible from ground level.
- Check the engine oil level quickly and safely from the ground.
- Save on maintenance parts with longer lasting filters.
- Track your machine's filter life and maintenance intervals on the in-cab monitor.
- Two levels of fuel filtration protect the engine from contaminated fuel.
- The hydraulic oil filter provides improved filtration performance, anti-drain valves to keep oil clean when the filter is replaced, and longer life with a 3,000-hour replacement interval.
- Scheduled Oil Sampling (S-O-S<sup>SM</sup>) ports are located at ground level, simplifying maintenance and allowing for quick, easy extraction of fluid samples for analysis.
- Boost productivity with proactive service reminders. The integrated vehicle health management system alerts the operator with step-by-step service guidance along with parts needed so you don't experience any unnecessary downtime.



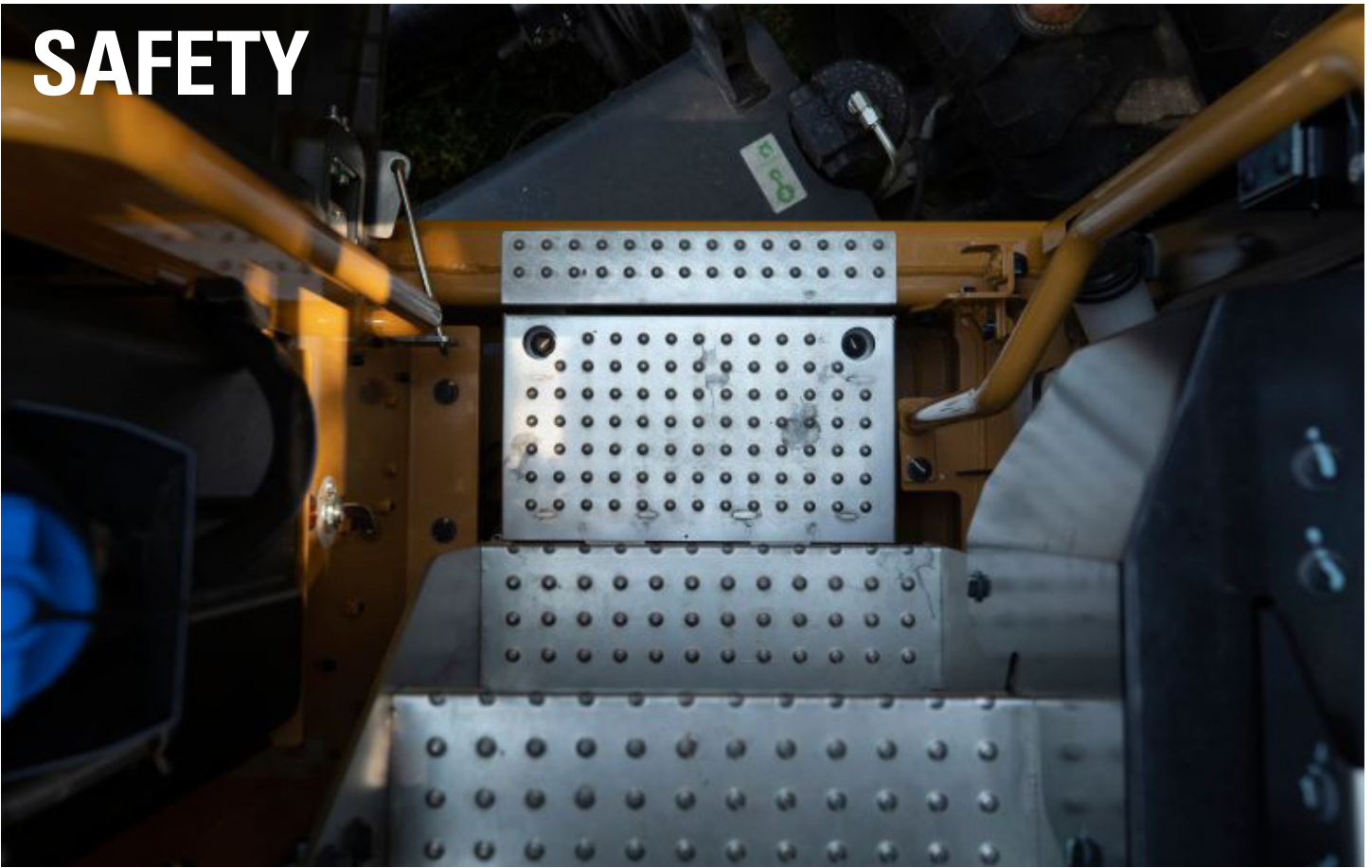
# SIMPLE TO OPERATE



- Start the engine with the push-to-start button, a Bluetooth key fob, or the unique Operator ID function.
- Program your power mode and joystick preferences using Operator ID; the excavator remembers your settings each time you go to work.
- Navigate quickly on the standard high-resolution 254 mm (10 inch) touchscreen monitor or with the aid of the jog dial control.
- The axle locks at zero speed and unlocks when the travel pedal is activated. The axle can also be manually locked with a button on the right-hand console.
- Tiltrotator attachments – ours or other brands – work seamlessly with Cat 2D Grade, Assist, Payload, and E-Fence . With no additional hardware required, all you have to do is simply select “Third Party Tiltrotator System Installation” in the monitor, do the calibration, and get to work.
- Cat continues to improve user interface functionality for operators of all skill levels. The touchscreen monitor is an easy-to-use operating tool that presents the jobsite dashboard with an intuitive format. Productivity applications are displayed in grid-view to read on-the-go, and touchscreen navigation is programmed to make sure job performance continues without any hold ups.



# SAFETY



- Access daily maintenance points from ground level.
- Keep your excavator secure with Operator ID. Use your PIN code on the monitor to enable the pushbutton starting feature.
- The standard Rollover Protective Structure (ROPS) cab meets ISO 12117-2:2008 requirements.
- Enjoy better visibility into trenches, in each swing direction, and behind you with the help of smaller cab pillars, larger windows, and a flat engine hood design. Rearview and side-view cameras are standard.
- The service platform design provides easy, safe, and quick access to the upper service platform; the service platform steps use anti-skid punch plate to prevent slipping.
- The standard hydraulic lockout lever isolates all hydraulic and travel functions in the lowered position.
- Swing lock prevents front linkage from moving as you travel.
- Ground-level shutoff switch stops all fuel to the engine when activated and shuts down the machine.
- Make service work easier and safer with optional inspection lighting. With the flip of a switch, lights will illuminate the engine, pump, battery, and radiator compartments to enhance visibility.



# BOOST EFFICIENCY AND PRODUCTIVITY WITH INTEGRATED CAT TECHNOLOGIES

- Boost productivity versus traditional grading with optional Cat Grade with 2D system.
- Optional Cat Payload helps you achieve precise load targets to improve your operating efficiency. Pick up a load of material – with a bucket and thumb combination or grapple and clamshell attachments – and get a real-time weight estimate without swinging.
- Combine Payload with VisionLink® and remotely manage your production targets or take payload data with you.
- Upgrade to our dual antenna Global Navigation Satellite System (GNSS) for maximum grading efficiency. The system lets you create and edit designs on the touchscreen monitor while you're on the job, or you can have the plan design sent to the excavator to make your work easier. Plus, you get added benefits of avoidance zones, cut and fill mapping, lane guidance, and augmented reality along with advanced positioning capability.
- Optional Grade Assist helps you stay on grade – simply and effortlessly – with single-lever digging. Set your desired bucket angle and let Bucket Assist automatically maintain the angle in sloping, leveling, fine grading, and trenching applications.
- Optional 2D E-fence is integrated right out of the factory to prevent the excavator from moving outside operator defined set points.
- All Cat Grade systems are compatible with radios and base stations from Trimble, Topcon, and Leica. Already invested in a grade infrastructure? You can install grade systems from Trimble, Topcon, and Leica onto the machine.



# SUSTAINABILITY

- The Cat® C4.4 engine meets U.S. EPA Tier 4 Final, EU Stage V, and Korea Tier 5 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)\* or 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.
  - Cat Grade technologies combine advanced guidance with optional automated machine control helping you reach grading targets while reducing fuel burn and greenhouse gas emissions by improving efficiency, jobsite productivity, and accuracy.
  - Auto Engine Speed Control reduces unnecessary fuel burn and greenhouse gas emissions by allowing the engine to automatically go into idle mode when the machine is not working.
  - Cat® Payload for excavators provides on-the-go material weighing which helps reduce fuel burn by improving loading efficiency, jobsite productivity, and eliminating trips to the scale.
  - Extended maintenance intervals not only reduce downtime but decrease the amount of fluid and filters that are replaced over the life of the machine.
  - Cat Scheduled Oil Sampling (S-O-S) Services helps reveal excessive wear, contaminated fluids or other “unseen” issues that can shorten component life. In many cases, you can extend oil and coolant change intervals by using fluid monitoring. Consult your Cat dealer or the machine’s operation and maintenance manual for more information.
  - Don’t waste fuel idling. Cat VisionLink online fleet monitoring helps you manage idle time and reduce fuel burn and greenhouse gas emissions. VisionLink displays the CO<sub>2</sub> emissions for monitored assets, calculated by fuel type for the Runtime Fuel Burned each day in a selected date range.
  - Remote Flash minimizes downtime and maintenance time while keeping your asset running with maximum efficiency. Alerts for machine updates are sent virtually from your Cat dealer and updates can be deployed without a dealer technician needing to be onsite. Remote Troubleshoot decreases maintenance time and keeps your machine running with maximum efficiency by allowing your Cat dealer to virtually test the machine while working. Once a problem is identified, a technician can fix it the first time, saving time and money.
- \*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.***





# MORE THAN MACHINES

BUILT AROUND YOUR SUCCESS

When you buy Cat equipment, you get so much more than the machine. You also get the support of a best-in-class dealer network, backed by a range of flexible solutions, technology, tools, and more.



## CUSTOMER VALUE AGREEMENTS

A Customer Value Agreement (CVA) from your Cat dealer helps you do more and worry less. A CVA simplifies machine ownership and maintenance, adds the security of expert dealer support, and gives you the peace of mind from effective equipment health management.

## GENUINE CAT PARTS

Genuine Cat parts deliver the highest level of reliability and productivity. Order direct from your Cat dealer or shop online at [parts.cat.com](http://parts.cat.com).

## REPAIR OPTIONS

A broad range of repair options give you choices that work with your needs, budget, and timeline. Every repair is performed by expert Cat technicians. You'll receive smart repair advice, a timely, accurate quote, and service that gets your machine back into action quickly.

## FINANCIAL SERVICES

Count on Cat Financial to provide the best finance and extended protection solutions for your business. For more than 30 years, we have helped our customers succeed through financial service excellence.



DOZERS



SKID STEERS



MATERIAL HANDLERS



EXCAVATORS



WHEEL LOADERS



TRACK LOADERS



INCREASE YOUR PRODUCTIVITY AND PROFIT

# WITH CAT ATTACHMENTS

You can easily expand the performance of your machine by utilizing any of the variety of Cat attachments. Each Cat attachment is designed to fit the weight and horsepower of Cat wheeled excavators for improved performance, safety, and stability.

**BUCKETS**



**GRAPPLERS**



**HYDRAULIC HAMMERS**



**SHEARS**



**MULCHERS**



**TILTROTATORS**



**COMPACTORS**



**COUPLERS**



# TECHNICAL SPECIFICATIONS

## Engine

Engine Power – ISO 14396	129.4 kW	174 hp
Engine Power – ISO 14396 (DIN)	176 hp (metric)	
Engine Model	C4.4	
Net Power – ISO 9249	128 kW	171 hp
Net Power – ISO 9249 (DIN)	174 hp (metric)	
Bore	105 mm	4.1 in
Displacement	4.4 L	268.5 in <sup>3</sup>
Stroke	5 in	127 mm
Biodiesel Capability	Up to B20 <sup>1</sup>	
Emissions	Meets U.S. EPA Tier 4 Final, EU Stage V, Japan 2014 emission standards.	

Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, Clean Emission Module (CEM) exhaust gas aftertreatment, alternator, and cooling fan with engine speed at 2,200 rpm. Advertised power is tested per the specified standard in effect at the time of manufacture.

<sup>1</sup>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)\* or 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.

## Hydraulic System

Main System – Maximum Flow – Implement	254 L/min	67 gal/min
Maximum Pressure – Implement Circuit – Heavy Lift	37 000 kPa	5,366 psi
Maximum Pressure – Implement Circuit – Travel Circuit	35 000 kPa	5,076 psi
Maximum Pressure – Implement Circuit – Normal	35 000 kPa	5,076 psi

## Swing Mechanism

Maximum Swing Torque	44 kN-m	32,560 ft-lbf
Swing Speed	9.4 r/min	

## Machine Weight

Operating Weight Maximum	21 050 kg	46,407 lb
Operating Weight Minimum	19 000 kg	41,888 lb

## Service Refill Capacities

Fuel Tank	290 L	76.6 gal
Diesel Exhaust Fluid (DEF)	20 L	5.3 gal
Cooling System	35 L	9.2 gal
Hydraulic Tank	120 L	31.7 gal
Hydraulic System – Including Tank	280 L	74 gal

## Transmission

Maximum Travel Speed	35 k/h	21.7 mile/h
Forward/Reverse – 1st Gear	10 km/h	6.2 mile/h
Forward/Reverse – 2nd Gear	35 km/h	21.7 mile/h
Creeper Speed – 1st Gear	5.5 km/h	3.4 mile/h
Creeper Speed – 2nd Gear	15 km/h	9.3 mile/h
Drawbar Pull	104 kN	23,380 lbf

## Dimensions

Boom	VA 5.2 m (17'1")	
Stick	2.5 m (8'2")	
Bucket	GD 0.91 m <sup>3</sup> (1.19 yd <sup>3</sup> )	
Shipping Height – Top of Cab	3260 mm	10.7 ft
Support Point	3520 mm	11.6 ft
Shipping Length	8110 mm	26.6 ft
Tail Swing Radius	1900 mm	6.25 ft
Counterweight Clearance	1300 mm	4.25 ft
Ground Clearance	420 mm	1.4 ft
Undercarriage Length	5050 mm	16.6 ft
Wheel Base	2700 mm	8.8 ft

## Working Ranges and Forces

Boom Type	VA 5.2 m (17'1")	
Stick	2.5 m (8'2")	
Bucket	GD 0.91 m <sup>3</sup> (1.19 yd <sup>3</sup> )	
Dump Height	7790 mm	25.6 ft
Digging Height	5750 mm	18.9 ft
Reach at Ground Level	9210 mm	30.2 ft
Vertical Wall Digging Depth	4450 mm	14.6 ft
Stick Forces (ISO)	75 kN	16,861 lbf
Bucket Forces (ISO)	119 kN	26,752 lbf

## working Ranges and Forces

Cutting Height	10 740 mm	35.2 ft
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## 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 1.43 metric tonnes.

# STANDARD & OPTIONAL EQUIPMENT

NOTE: Standard and optional equipment may vary. Consult your Cat dealer for details.

	Standard	Optional
<b>BOOM AND STICKS</b>		
5.2 m (17'1") variable adjustable boom	✓	
2.2 m (7'3") stick		✓
2.5 m (8'2") stick		✓
2.9 m (9'6") stick		✓
<b>UNDERCARRIAGE AND STRUCTURES</b>		
Automatic brake/axle lock	✓	
5000 kg (11,020 lb) counterweight	✓	
All wheel drive	✓	
10.00-20 16 PR, dual tires		✓
11.00-20 16 PR, dual tires		✓
315/70R22.5, no gap dual tires		✓
445/70R 19.5, single tires		✓
300-80-22.5 dual pneumatic, spacerless tire		✓
<b>CAT TECHNOLOGY</b>		
VisionLink	✓	
Remote Flash	✓	
Remote Troubleshoot	✓	
Cat Grade Connectivity		✓
Cat Grade 2D		✓
Cat Grade with Attachment Ready Option (ARO)		✓
Cat Grade 3D dual GNSS		✓
Laser catcher		✓
Grade Assist		✓
Cat Payload		✓
Cat Tilt Rotator (TRS) Integration		✓
<b>CAB</b>		
ROPS, sound suppression	✓	
High-resolution 254 mm (10 in) LCD touchscreen monitor	✓	
Deluxe cab		✓
Premium cab		✓
Auxiliary relay		✓
<b>ENGINE</b>		
Power mode selector	✓	
One-touch low idle with auto engine speed control	✓	
Auto engine idle shutdown	✓	
52 °C (125 °F) high-ambient cooling capacity	✓	
Cold start capability-18 °C (0 °F)	✓	
Double element air filter with integrated precleaner	✓	
Electric fuel priming pump	✓	
On-demand electric cooling fans	✓	

	Standard	Optional
<b>ELECTRICAL SYSTEM</b>		
LED lights on chassis (left-hand, right-hand) and counterweight	✓	
Programmable time-delay LED working lights	✓	
Roading and indicator lights, front and rear	✓	
Maintenance-free batteries	✓	
Centralized electrical disconnect switch	✓	
Electrical refueling pump		✓
<b>SERVICE AND MAINTENANCE</b>		
Integrated vehicle health management system	✓	
S-O-S ports	✓	
Automatic lubrication system for implement and swing system		✓
<b>HYDRAULIC SYSTEM</b>		
Automatic swing brake	✓	
Auto hydraulic oil warm up	✓	
Electronic main control valve	✓	
Boom and stick drift reduction valves	✓	
1-slider joysticks	✓	
Heavy lift mode	✓	
Quick coupler circuit	✓	
Separate dedicated swing pump	✓	
2-slider joysticks		✓
Second high-pressure auxiliary circuit (one/ two-way high-pressure flow)		✓
Medium pressure auxiliary circuit (one/twoway medium-pressure flow)		✓
SmartBoom		✓
Ride control		✓
Cat tiltrotator support		✓
Joystick steering		✓
<b>SAFETY AND SECURITY</b>		
Rear- and right-side-view cameras	✓	
Wide angle mirrors	✓	
Ground-level engine shutoff switch	✓	
Anti-skid plate and countersunk bolts on service platform	✓	
360° visibility		✓
Cat asset tracker		✓
Signaling/warning horn		✓
Inspection lighting		✓
2D E-Fence		✓





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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AEXQ3231-04  
Replaces: AEXQ3231-03  
Build Number: 07D  
(Europe, N Am)

