

# M319

## WHEEL EXCAVATOR



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Engine Power – ISO 14396	129 kW (174 hp)
Operating Weight Maximum	21 050 kg (46,410 lb)
Maximum Travel Speed	35 km/h (21.7 mile/h)



# M319

## WHEEL EXCAVATOR

The Cat® M319 Wheel Excavator offers performance features and versatility to help you get more work done every day. With easy-to-use controls, a comfortable cab, and long service intervals, the M319 helps save you time and money. The compact radius design helps make it easy to work in space restricted environments.



### HIGH PERFORMANCE

Work fast with help from the small front and tail swing radius and optional Cat Payload and Grade with Assist technologies, along with versatility with the Cat tiltrotator (TRS) integration.

### EASY TO MAINTAIN

Long life filters for fuel, hydraulic oil, and air, 100 percent daily ground-level check, and centralized grease points with an autolube option help lower your overall costs.

### OPERATOR COMFORT

Operate with ease. Deluxe and Premium cab options with an ergonomic control layout and comfortable seat help you work comfortably all shift long.



## **Cat Grade 3D Ready**

- The Cat Grade 3D Ready option includes all the hardware required for the Grade with 3D system, installed and tested from the factory. This option provides an easier upgrade path for customers who want to add Grade with 3D after their initial purchase. To activate, contact your Cat Dealer to purchase the required 3D software licenses. Licenses can be installed remotely or manually loaded onto the machine.

## **Cat Payload\***

- The Cat Payload option provides operators with on-the-go weighing to help them hit load targets and avoid overloading, underloading, or misloading materials.

*\*Payload technologies are not legal for trade.*

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

# HIGH PERFORMANCE

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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.
- The M319 is fuel efficient to help keep you moving and productive on the jobsite.
- Work confidently in space-restricted areas. Dig, swing, and dump within a tight working space.
- Easily travel between sites with travel speeds up to 35 km/h (21.7 mph).
- From dirt to asphalt, the excavator matches your needs to help 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.
- The dedicated swing pump helps provide consistent power for better multi-tasking capabilities.
- Auxiliary hydraulic options give you the versatility to use a wide range of Cat attachments.
- Optional bucket cylinder lowering check valves enable the machine to be used in additional applications.
- Don't let the temperature stop you from working. The wheel 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, cooled, and adjusts automatically.
- Get in and out of the cab easier using the tip-up left console.
- Advanced viscous mounts help you feel comfortable in the cab while you work with reduced cab vibrations.
- 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 the climate control system using the touchscreen monitor or jog dial.

# LOW 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.
- Long life filters for fuel, hydraulic oil, and air help save on maintenance costs.
- Track your machine's filter life and maintenance intervals on the in-cab monitor.
- The fuel filtration helps protect the engine from fuel contamination.
- The hydraulic oil filter helps provide high filtration performance, anti-drain valves to help keep oil clean when the filter is replaced, and long life with a 3,000-hour replacement interval.
- Centralized grease points with an autolube option mean less downtime and more work getting done.
- Scheduled Oil Sampling (S-O-S<sup>SM</sup>) ports are located at ground level, helping simplify 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.

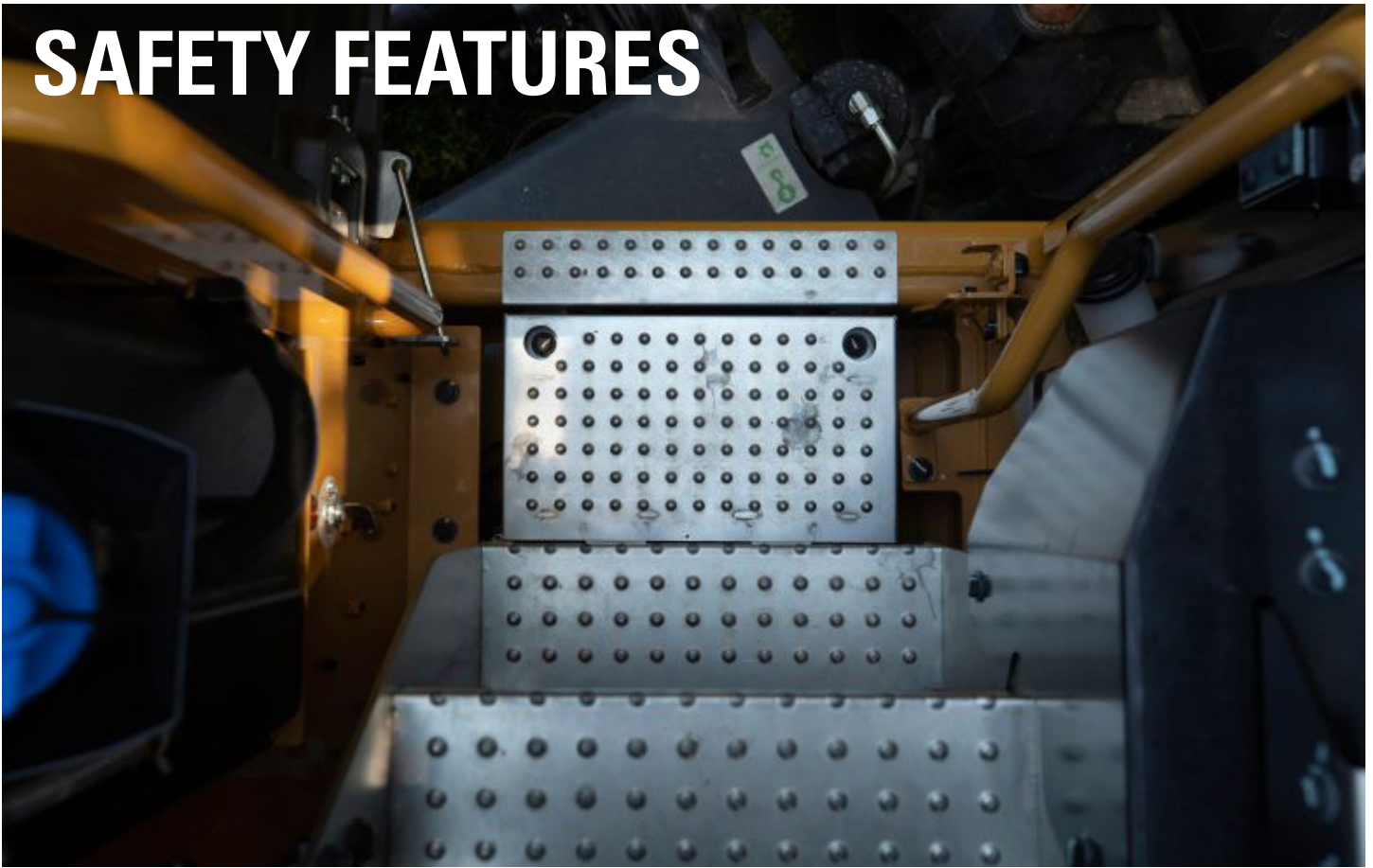


# SIMPLE TO OPERATE



- 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 in) 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 or with a joystick button.
- Turn on Heavy Lift mode and get more force when you need it.
- 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 FEATURES



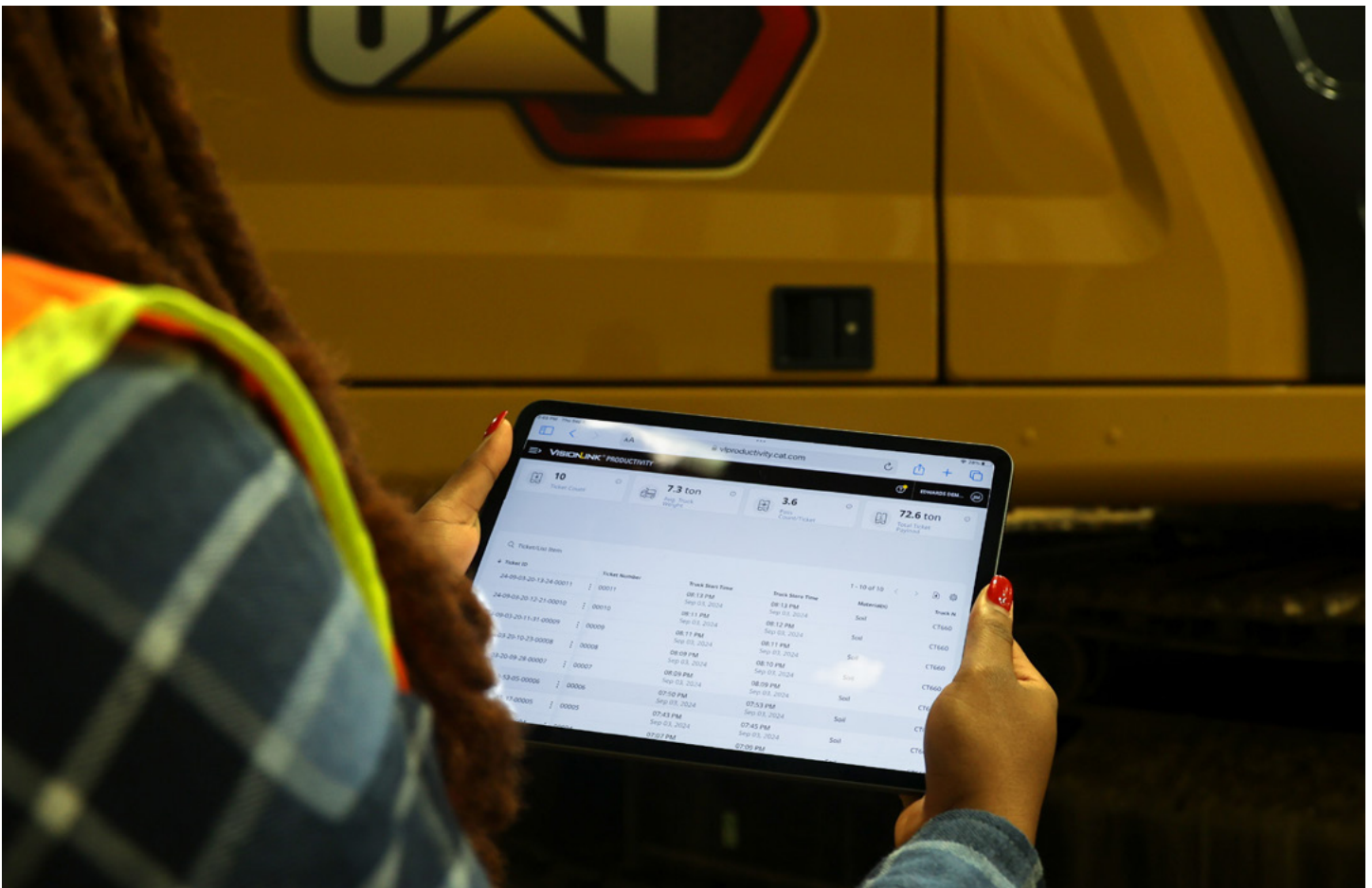
- Access daily maintenance points from ground level.
- Keep your excavator secure with Operator ID. Use your PIN code on the monitor to enable the push button starting feature.
- The standard Rollover Protective Structure (ROPS) cab meets ISO 12117-2:2008 requirements.
- Enjoy great all-around visibility with the help of small cab pillars, large windows, and a flat engine hood design. Rear and right-side-view cameras are standard.
- The service platform design helps provide easy, safe, and quick access to the upper service platform; the service platform steps use anti-skid punch plate to help prevent slipping.
- The standard hydraulic lockout lever isolates all hydraulic and travel functions in the lowered position.
- The travel and swing lock prevent the front linkage and upper frame from moving as you travel.
- The ground-level shutoff switch stops all fuel to the engine when activated and shuts down the machine.
- Optional inspection lighting helps make service work easy and safe. With the flip of a switch, lights will illuminate the engine, pump, battery, and radiator compartments to enhance visibility.
- Optional Operator Protective Guards (OPG) protect from falling and flying debris.
- Optional Cab Avoidance helps you avoid contact between your worktool attachment and the cab.
- Optional 2D E-fence is integrated right out of the factory to prevent the excavator from moving outside operator defined set points.



# INTEGRATED CAT® TECHNOLOGIES

- The latest operator oriented User Interface (UI) has been designed to help maximize uptime.
- VisionLink® provides actionable data insights for all assets – regardless of fleet size or equipment manufacturer.\* Review equipment data from your desktop or mobile device to maximize uptime and optimize assets. Dashboards provide information such as hours, miles, location, idle time, and fuel utilization. Make informed decisions that lower costs, simplify maintenance, and improve safety and security on your jobsite.
- Remote Flash is a mobile application that allows you to update onboard software without a technician being present, allowing you to initiate software updates when convenient, increasing your overall operating efficiency.
- Remote Troubleshoot is a mobile application that allows your Cat dealer to perform diagnostic testing on your connected machine remotely to help ensure that issues are resolved quickly and with less downtime.
- Optional Cat Grade with 2D system helps boost productivity versus traditional grading.
- Optional Cat Grade with 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 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.

*\*Data field availability can vary by equipment manufacturer.*



# SUSTAINABILITY

- The Cat C4.4 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)\* 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.
- 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.
- 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<sup>SM</sup>) 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.
- 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.
- 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.
- 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.

*\*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 world-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 wheel excavators for improved performance, safety, and stability.

**BUCKETS**



**GRAPPLERS**



**HYDRAULIC HAMMERS**



**SHEARS**



**MULCHERS**



**TILTROTATORS**



**COMPACTORS**



**COUPLERS**



# TECHNICAL SPECIFICATIONS

## Engine

Engine Power – ISO 14396	129 kW	174 hp
Engine Power – ISO 14396 (DIN)	176 hp (metric)	
Engine Model	Cat® C4.4	
Net Power – ISO 9249	128 kW	171 hp
Net Power – ISO 9249 (DIN)	174 hp (metric)	
Bore	105 mm	4.1 in
Stroke	127 mm	5 in
Displacement	4.4 L	268.5 in³
Biodiesel Capability	Up to B20¹	
Emissions	Meets U.S. EPA Tier 4 Final and EU Stage V 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 running at intermediate speed. Rated speed 2,200 rpm. Advertised power is tested per the specified standard in effect at the time of manufacture.

¹Cat 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.

## Drive

Maximum Travel Speed	35 km/h	21.7 mile/h
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## Hydraulic System

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

## Swing Mechanism

Maximum Swing Speed*	9.4 r/min	
Maximum Swing Torque	47.1 kN-m	34,739 lbf-ft

\*For CE-marked machine default value may be set lower.

## Machine Weight

Operating Weight Maximum	21 050 kg	46,410 lb
Operating Weight Minimum	19 000 kg	41,890 lb

Operating weight includes full fuel tank, operator, bucket 700 kg (1,540 lb) and dual pneumatic tires. Weight varies depending on configuration. Typical configurations include 2.5 m (8'2") stick, bucket and 220 kg (485 lb) quick coupler.

## 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

## Dimensions

Boom	Variable Adjustable Boom 5.2 m (17'1")	
Stick	2.5 m (8'2")	
Bucket	General Duty (GD) 0.91 m³ (1.19 yd³)	
Shipping Height – Top of Cab	3360 mm	11 ft
Shipping Length	8110 mm	26.6 ft
Support Point	3520 mm	11.5 ft
Tail Swing Radius	1900 mm	6.2 ft
Counterweight Clearance	1300 mm	4.3 ft
Ground Clearance	420 mm	1.4 ft
Undercarriage Length	5050 mm	16.6 ft
Wheel Base	2700 mm	8.9 ft

## Working Ranges and Forces

Boom Type	Variable Adjustable Boom 5.2 m (17'1")	
Stick	2.5 m (8'2")	
Bucket	GD 0.91 m³ (1.19 yd³)	
Maximum Cutting Height	10 740 mm	35.2 ft
Maximum Loading Height	7790 mm	25.6 ft
Maximum Digging Depth	5750 mm	18.9 ft
Maximum Vertical Wall Digging Depth	4450 mm	14.6 ft
Maximum Reach at Ground Line	9210 mm	30.2 ft
Stick Forces (ISO)	75 kN	16,861 lbf
Bucket Forces (ISO)	119 kN	26,752 lbf

Range values are with dual pneumatic tires (10.00-20). Range values are calculated with a GD bucket (CW) and CW quick coupler with a tip radius of 1484 mm (4'10"). Force values are calculated with heavy lift on, a GD bucket (pin-on) and a tip radius of 1378 mm (4'6").

## 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 (2.2 lb) of refrigerant which has a CO<sub>2</sub> equivalent of 1.43 metric tonnes (1.576 tons).

# 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 (Europe only)		✓
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 (Europe only)		✓
<b>CAT TECHNOLOGY</b>		
VisionLink	✓	
Remote Flash and Remote Troubleshoot	✓	
Cat Grade with 2D		✓
Cat Grade with 2D with Attachment Ready Option (ARO)		✓
Laser catcher		✓
Cat Grade 3D Ready		✓
Cat Grade Connectivity		✓
Cat Grade with Assist		✓
Cat Payload		✓
Cat Tiltrotator (TRS) integration		✓
<b>CAB</b>		
Sound-suppressed ROPS cab	✓	
Keyless push-to-start engine control	✓	
Height-adjustable console, infinite with no tool	✓	
High-resolution 254 mm (10 in) LCD touchscreen monitor	✓	
Operator Protective Guard (OPG)		✓
<b>ENGINE</b>		
Power mode selector	✓	
One-touch low idle with auto engine speed control	✓	
Automatic engine idle shutdown	✓	
52°C (125°F) high-ambient cooling capacity	✓	
Cold start capability -18°C (0°F)	✓	
Double element air filter with integrated pre-cleaner	✓	

	Standard	Optional
<b>ELECTRICAL SYSTEM</b>		
LED lights on chassis (left-hand, right-hand) and counterweight	✓	
Programmable time-delay LED working lights	✓	
Rooding 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	✓	
Scheduled Oil Sampling (S-O-S <sup>SM</sup> ) ports	✓	
Automatic lubrication system for implement and swing system		✓
<b>HYDRAULIC SYSTEM</b>		
Boom, stick and bucket drift reduction valves	✓	
Automatic hydraulic oil warm up	✓	
Heavy lift mode	✓	
One-slider joysticks	✓	
Boom/stick lowering check valves		✓
Bucket cylinder check valves		✓
Two-slider joysticks		✓
Joystick steering		✓
<b>SAFETY AND SECURITY</b>		
Rear and right-side-view cameras	✓	
Wide angle mirrors	✓	
Lockable disconnect switch	✓	
Anti-skid plate and countersunk bolts on service platform	✓	
360° visibility		✓
Signal/warning horn		✓
Inspection lighting		✓
2D E-fence		✓
Cab avoidance		✓



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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AEXQ4194-00  
Build Number: 07E  
(Europe, N Am)

