

320

HYDRAULIC EXCAVATOR



Net Power – ISO 9249
Operating Weight
Maximum Digging Depth

117 kW (157 hp)
21 300 kg (47,000 lb)
6720 mm (22 ft)



320

HYDRAULIC EXCAVATOR

The Cat® 320 raises the bar for efficiency and fuel economy in this size class. With the industry's highest level of standard factory technology, an ergonomic cab focused on operator comfort and productivity, plus lower fuel and maintenance costs, the 320 will set a new pace for productivity and profit in your operation.



UP TO 20% LESS FUEL CONSUMPTION

A precise combination of lower engine speed and a large hydraulic pump delivers top performance while burning less fuel.

UP TO 25% LOWER MAINTENANCE COSTS

With extended and more synchronized maintenance intervals, you get more done at a lower cost compared to the previous model.

UP TO 45% MORE OPERATING EFFICIENCY

Offering the industry's highest level of standard factory-equipped technology, including Cat Grade with 2D, Grade with Assist and Payload.

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 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.
- Operator Coaching – Empower Operators. Exceed Targets.
 1. Operator Coaching is an in-cab system that recognizes specific opportunities for operators to be more productive and prevent unnecessary machine wear and tear.
 2. After detecting inefficient or restricted actions, the system alerts the operator and provides insight into the inefficiency and steps to improve.
 3. Paired with a VisionLink® Productivity subscription, this information and other Operator Coaching insights can be viewed from anywhere.

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



DO MORE WITH LESS FUEL



- Use up to 20% less fuel than the Cat 320D2 excavator.
- Increase operating efficiency up to 45% with standard Cat technologies that lower operator fatigue and your operating costs, including fuel consumption and daily maintenance.
- The C7.1 engine can run on biodiesel up to B20 and meets Brazil Mar-1 equivalent emission standards.
- The advanced hydraulic system provides the optimum balance of power and efficiency while giving you the control you need for precise digging requirements.
- Match the excavator to the job with power modes; let Smart mode automatically match engine and hydraulic power to your digging conditions.
- Advansys™ bucket tips increase penetration and improve cycle times. Tip changes can be done quickly with a simple lug wrench instead of a hammer or special tool, improving safety and uptime.
- 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). An optional -32° C (-25° F) cold start package is available.

EFFICIENCY THROUGH TECHNOLOGY

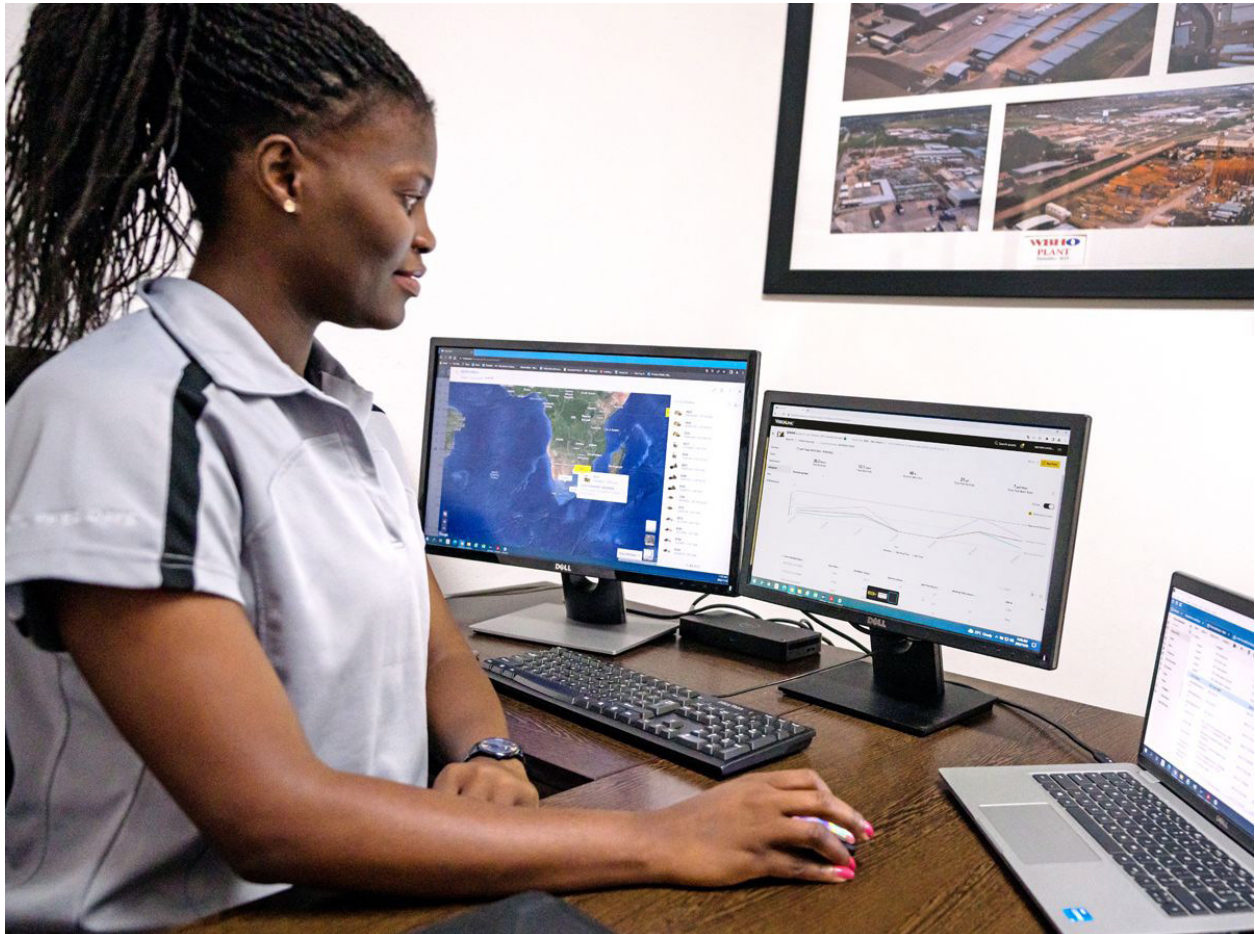
- Boost productivity up to 45% versus traditional grading with standard Cat Grade with 2D system – includes indicate-only and laser capability.
- Cat Payload helps you achieve precise load targets to improve your operating efficiency. Pick up a load of material – with a bucket and thumb combination or grapple and clamshell attachments – and get a real-time weight estimate without swinging.
- Combine Payload with VisionLink and remotely manage your production targets.
- Want a 3D system to improve your digging results? Caterpillar single antenna global navigation satellite system (GNSS) makes it easy by giving you visual and auditory guidance to grade. Plus, you can create and edit designs on the touchscreen monitor while you're on the job. If your application calls for a dual antenna system, it's easy to upgrade.
- Upgrade to our dual antenna 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.
- Already invested in another brand's 3D system? No problem. Standard Cat technology like Grade with 2D can readily integrate with that system to give you the precise results you need.
- Standard 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.
- Keep the tracks on ground in lifting and hard digging with Boom Assist.
- Automatically stop excavator swing at operator-defined set points in truck loading and trenching applications with Swing Assist, which will help you use less effort and consume less fuel.
- 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.
- Operator Coaching is an in-cab system that recognizes specific opportunities for operators to be more productive and prevent unnecessary machine wear and tear.



TAKE THE GUESSWORK OUT OF MANAGING YOUR EQUIPMENT

- 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.
- VisionLink Productivity gathers and summarizes machine telematics and jobsite data from all your equipment – regardless of the manufacture.* View actionable information such as idle time, fuel burn, location, payload, load counts, total cycles, and more to improve machine efficiency, productivity, and utilization. Access data anywhere via a mobile, tablet, or desktop device – on or off the jobsite.
- Cat® Inspect is a mobile application that allows you to easily perform digital preventative maintenance (PM) checks, inspections, and daily walkarounds. Inspections can easily be integrated with other Cat data systems like VisionLink so you can keep a close eye on your fleet.
- 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.
- 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.
- The Cat PL161 attachment locator allows you to track attachments across all worksites, reduce the number of lost attachments, and plan for attachment maintenance and replacement. The work tool recognition feature automatically adjusts machine settings based on the selected tool.

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



DESIGNED FOR OPERATORS

- Cab options let you choose the level of comfort you need.
- Enjoy wide spacing between consoles for a more spacious comfortable environment.
- Sit in wide seats that adjust for operators of all sizes (heated and heated/cooled options are available).
- Get in and out of the cab easier using the tip-up left console (in Deluxe cab only).
- Control the excavator comfortably with easy-to-reach controls located in front of you. Standard automatic climate control keeps you at the right temperature throughout your shift.
- Improved viscous mounts reduce cab vibration by up to 50% over our previous excavator models.
- Stow your gear with plenty of in-cab storage behind the seat, overhead, and in the consoles.
- The standard radio has USB ports and Bluetooth® technology enabled to connect your device and make hands-free calls.



SIMPLE TO OPERATE



- Start the engine with a push button; use a Bluetooth key fob, or the Operator ID passcode.
- Program each joystick button, including response and pattern, using Operator ID; the machine will remember what you set each time you go to work.
- Program up to four depth and slope offsets so you can easily get to grade without a grade checker – a real time saver and safety enhancer on the jobsite.
- Navigate quickly on the standard high-resolution 203 mm (8in) touchscreen monitor, or with the optional 254 mm (10 in) touchscreen monitor, or with the aid of the jog dial control.
- Not sure how a function works or how to maintain the excavator? Always have the operator's manual at your fingertips in the touchscreen monitor.
- Protect your hammer tool from overheating and rapid wear. Auto hammer stop warns you after 15 seconds of continuous firing and then automatically shuts it off after 30 seconds – all to extend the tool's service life.
- The Cat PL161 attachment locator is a Bluetooth device designed to let users know where their attachments are across all worksites, reduce the number of lost attachments, and plan for attachment maintenance and replacement. The PL161 integrates easily into VisionLink for full fleet management of machines and attachments from one smartphone or tablet dashboard to view location and tracking details.
- Save more time and energy with the available work tool recognition feature. A simple shake of the attached tool confirms its identity and ensures all the attachment settings (pressure, flow, and dimensions) are correct so you can work quickly and efficiently.
- Auto Dig Boost increases power by up to 8% for better bucket penetration, shorter cycle times, and greater payloads.
- Need more lift during your shift? Turn on Auto Heavy Lift and get 8% more power exactly when you need it for as long as you need it.
- Make moving the excavator much easier with Cat Stick Steer. Simply push a button and use one hand to travel and turn instead of both hands or feet on levers or pedals.
- Make operating easier with the touch of a joystick button. Additional auxiliary relays allow you to power on or turn off a CB radio, beacon light, and even a dust suppression watering system without taking your hands off the joysticks (Deluxe cab only).

SAVE ON SERVICE AND MAINTENANCE

- Expect up to 25% less maintenance cost than the 320D2 (savings calculated over 12,000 machine hours).
- 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.
- Do all daily maintenance at ground level.
- Check engine oil level quickly and safely with the ground-level engine oil dipstick; fill and check engine oil on top of the machine with a conveniently located second dipstick.
- Reversing electric cooling fans make it easy to clean radiator, oil coolers, and condensers.
- The latest air intake filter with pre-cleaner has double the dust holding capacity of the previous air intake filter.
- Using Cat genuine oil and filters and doing your typical Scheduled Oil Sampling (S-O-SSM) monitoring will double the current service interval to 1,000 hours, giving you greater uptime to do more work.
- The latest 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 – 50% longer than previous filter designs.
- S-O-S ports are on ground level, simplifying maintenance and allowing for quick, easy extraction of fluid samples for analysis.



SAFELY HOME EVERY DAY

- Cat Detect – People Detection helps protect the most valuable asset on any jobsite – people. The system uses smart cameras with depth sensors to provide the operator with visual and auditory alerts so he or she can take immediate action when a person is too close to the excavator.
- Cat Command remote control enables equipment operators to work safely outside the machine when working in hazardous environments. Command offers the choice of handheld Consoles (line-of-sight) or long-distance virtual Stations (non-line-of-sight). Deep integration with machine systems enables efficiency and productivity by maintaining the use of in-cab technology* features (Grade, Payload, Assist, etc.).
- 2D E-Fence prevents the excavator from moving outside of operator-defined set points; the system works with thumb and bucket combinations along with hammer, grapple, and clamshell attachments.
- Access 100% of daily maintenance points from ground level – no need for you to climb on top of excavator.
- The standard Rollover Protective Structure (ROPS) cab meets ISO 12117-2 2008 requirements.
- Enjoy great visibility into the trench, in each swing direction, and behind you with the help of smaller cab pillars, larger windows, and a flat engine hood design.
- The standard hydraulic lockout lever isolates all hydraulic and travel functions in the lowered position.
- Ground level shut-off switch stops all fuel to the engine when activated and shuts down the machine.
- A rearview camera is standard. Upgrade to 360° visibility and you'll see objects and personnel around the excavator in a single view.
- Right-hand service platform design provides easy, safe, and quick access to upper service platform; the service platform steps use anti-skid punch plate to prevent slipping. The handrails comply with ISO 2867:2011 requirements.
- 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.
- Enhance jobsite safety. Add a swing alarm to alert people when you're rotating from trench to stockpile and back again.

****Not all technology features are available on the Command Console and vary by model. Consult your Cat dealer for details.***



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.

REPAIR OPTIONS

A broad range of repair options gives 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 excavators for improved performance, safety, and stability.

BUCKETS



QUICK COUPLERS



ATTACHMENT TRACKING MADE EASY

The Cat PL161 Attachment Locator is a Bluetooth device that makes finding your attachments and other gear quick and easy. The excavator's onboard Bluetooth reader or the Cat app on your phone will locate the device automatically.

Save more time and energy with the available work tool recognition feature. A simple shake of the attached tool confirms its identity; it also ensures all the attachment settings are correct, so you can get to work quickly and efficiently.

GRAPPLES



TILTROTATOR



DO HARD-TO-REACH WORK

With 360° rotation and 40° side-to-side tilting action, a Cat tiltrotator will help you get complex work done faster. A new system upgrade from the factory allows the tool to work with Cat 2D Grade, Assist, Payload, and E-Fence. It includes factory-fit joysticks, but uses the standard cab monitor to display the tool and engage its SecureLock™ so you don't need to spend money on an extra monitor. It also works seamlessly with other brands 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.

MULTI-PROCESSORS



HYDRAULIC HAMMERS



PREVENT HAMMER WEAR AND TEAR

Protect your hammer tool from overheating and rapid wear. Auto hammer stop warns you after 15 seconds of continuous firing and then automatically shuts it off after 30 seconds – all to extend the tool's service life.

TECHNICAL SPECIFICATIONS

Engine

Net Power – ISO 9249	117 kW	157 hp
Net Power – ISO 9249 (DIN)	159 hp (metric)	
Engine Model	Cat C7.1	
Engine Power – ISO 14396	118 kW	158 hp
Engine Power – ISO 14396 (DIN)	160 hp (metric)	
Bore	105 mm	4 in
Stroke	135 mm	5 in
Displacement	7.01 L	428 in ³
Biodiesel Capability	Up to B20 ¹	
Emissions	Meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.	

Net power advertised is the power available at the flywheel when the engine is equipped with fan, air intake system, exhaust system and alternator with engine speed at 1,800 rpm. Advertised power is tested per the specified standard in effect at the time of manufacture.

¹Cat engines are compatible with diesel fuel blended with the following lower-carbon intensity fuels** up to: 100% 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.

*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	429 L/min (113 gal/min)	
Maximum Pressure – Equipment	35 000 kPa	5,075 psi
Maximum Pressure – Equipment – Lift Mode	38 000 kPa	5,510 psi
Maximum Pressure – Travel	34 300 kPa	4,974 psi
Maximum Pressure – Swing	27 500 kPa	3,988 psi

Swing Mechanism

Swing Speed	11.3 r/min	
Maximum Swing Torque	82 kN·m	60,300 ft·lbf

Weights

Operating Weight	21 300 kg	47,000 lb
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Heavy Duty (HD) Reach boom, HD R2.9 (9'6") stick, HD 1.19 m³ (1.56 yd³) bucket, 600 mm (24") triple grouser shoes, and 3700 kg (8,200 lb) counterweight.

Service Refill Capacities

Fuel Tank Capacity	345 L	86.6 gal
Cooling System	25 L	6.6 gal
Engine Oil	25 L	6.6 gal
Swing Drive – Each	6 L	1.6 gal
Final Drive – Each	5 L	1.3 gal
Hydraulic System – Including Tank	234 L	61.8 gal
Hydraulic Tank	115 L	30.4 gal

Dimensions

Boom	HD Reach 5.7 m (18'8")	
Stick	HD Reach 2.9 m (9'6")	
Bucket	HD 1.19 m ³ (1.56 yd ³)	
Shipping Height – Top of Cab	2960 mm	9.7 ft
Handrail Height	2950 mm	9.8 ft
Shipping Length	9530 mm	31.3 ft
Tail Swing Radius	2830 mm	9.3 ft
Counterweight Clearance	1050 mm	3.4 ft
Ground Clearance	470 mm	1.5 ft
Track Length	4450 mm	14.7 ft
Length to Center of Rollers	3650 mm	12 ft
Track Gauge	2380 mm	7.8 ft
Transport Width	2980 mm	9.8 ft

Working Ranges & Forces

Boom	HD Reach 5.7 m (18'8")	
Stick	HD Reach 2.9 m (9'6")	
Bucket	HD 1.19 m ³ (1.56 yd ³)	
Maximum Digging Depth	6720 mm	22 ft
Maximum Reach at Ground Level	9860 mm	32.3 ft
Maximum Cutting Height	9370 mm	30.7 ft
Maximum Loading Height	6490 mm	21.3 ft
Minimum Loading Height	2170 mm	7.1 ft
Maximum Depth Cut for 2440 mm (8 ft) Level Bottom	6550 mm	21.5 ft
Maximum Vertical Wall Digging Depth	5190 mm	17 ft
Bucket Digging Force – ISO	150 kN	33,811 lbf
Stick Digging Force – ISO	106 kN	23,911 ft·lbf

STANDARD & OPTIONAL EQUIPMENT

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

	Standard	Optional
UNDERCARRIAGE AND STRUCTURES		
4700 kg (10,400 lb) counterweight for SLR boom and stick	✓	
Tie-down points on base frame	✓	
600 mm (24") double grouser shoes		✓
600 mm (24") triple grouser shoes		✓
700 mm (28") triple grouser shoes		✓
790 mm (31") tripler grouser shoes		✓
3700 kg (8,160 lb) counterweight		✓
4200 kg (9,300 lb) counterweight		✓
BOOMS AND STICKS		
5.7 m (18'8") HD Reach boom		✓
8.85 m (29'0") Super Long Reach boom		✓
2.9 m (9'6") HD Reach stick		✓
2.5 m (8'2") HD Reach stick		✓
2.9 m (9'6") SD Reach stick (Kingdom of Saudi Arabia only)		✓
2.5 m (8'2") SD Reach stick (Kingdom of Saudi Arabia only)		✓
6.28 m (20'7") Super Long Reach stick		✓
CAT TECHNOLOGY		
VisionLink	✓	
Remote Flash	✓	
Remote Troubleshoot	✓	
Cat Grade 2D	✓	
Cat Assist	✓	
Cat Payload	✓	
VisionLink Productivity		✓
Cat Grade 2D with Attachment Ready Option (ARO)		✓
Cat Grade 3D single GNSS		✓
Cat Grade 3D dual GNSS		✓
Cat Tilt Rotator (TRS) Integration		✓
Operator Coaching		✓

	Standard	Optional
CAB		
ROPS	✓	
Mechanical-suspension seat (Comfort only)	✓	
Heated air-suspension seat (Deluxe only)	✓	
High-resolution 203 mm (8 in) LCD touchscreen monitor	✓	
High-resolution 254 mm (10 in) LCD touchscreen monitor		✓
Cat Stick Steer		✓
ENGINE		
Cat C7.1 single turbo diesel engine	✓	
Three selectable power modes	✓	
Automatic engine speed control	✓	
Auto engine idle shutdown	✓	
52° C (125° F) high-ambient cooling capacity	✓	
-18° C (0° F) cold start capability	✓	
Double element air filter with integrated pre-cleaner	✓	
Reversing electric cooling fans	✓	
-32° C (-25° F) cold start capability		✓
ELECTRICAL SYSTEM		
Two 1,000 CCA maintenance-free batteries	✓	
Programmable time-delay LED working lights	✓	
LED chassis light, left-hand/right-hand boom lights, cab lights	✓	
Four 1,000 CCA maintenance-free batteries		✓
SERVICE AND MAINTENANCE		
S-O-S ports	✓	
Ground-level and platform-level engine oil dipsticks	✓	
Integrated vehicle health management system	✓	

(continued on next page)

STANDARD & OPTIONAL EQUIPMENT *(continued)*

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

	Standard	Optional
HYDRAULIC SYSTEM		
Boom and stick regeneration circuits	✓	
Auto warm up	✓	
Auto two-speed travel	✓	
Boom and stick drift reduction valve	✓	
Auto hydraulic warm up	✓	
Slider joysticks	✓	
Hammer return filter circuit		✓
Hydraulic efficiency monitoring		✓
Auto Heavy Lift		✓
Tool control (two pump, one/two way high-pressure flow)		✓
Basic tool control (one pump, one way high-pressure flow)		✓
Quick coupler circuit for Cat Pin Grabber		✓

	Standard	Optional
SAFETY AND SECURITY		
2D E-Fence	✓	
Auto hammer stop	✓	
Rearview camera	✓	
Right-hand mirror	✓	
Cat asset tracker	✓	
Ground-level engine shutoff switch	✓	
Lockable disconnect switch	✓	
Right-hand handrail and hand hold	✓	
Signaling/warning horn	✓	
Cat Command (remote control)		✓
Right-hand-sideview camera		✓
360° visibility		✓
Travel alarm		✓
Swing alarm		✓
Inspection lighting		✓

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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www.cat.com www.caterpillar.com



AEXQ2332-09
Replaces AEXQ2332-08
Build Number: 07G
(Afr-ME, Eurasia, Pacific Islands,
Hong Kong, Taiwan, S Am [except
Chile, Colombia], SE Asia)

