



Cat[®] 320

Hydraulic Excavator

The Cat[®] 320 excavator brings premium performance with simple-to-use technologies like Cat GRADE with 2D, Grade Assist, Lift Assist, and Payload – all standard equipment from the factory to boost your operator efficiencies up to 45 percent. Combine these features with a new cab, longer maintenance intervals that lower your maintenance costs up to 20 percent, and a power system that reduces fuel consumption by up to 20 percent and you have a low-cost-per-unit-of-production excavator that's perfect for medium- to heavy-duty applications.

Not all features available in all regions. Consult your Cat dealer for specific configurations available in your region.

High Performance with Lower Fuel Consumption

- Use up to 20 percent less fuel than the Cat 320D2 excavator.
- Increase operating efficiency up to 45 percent 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 China Nonroad Stage III and Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
- 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.

Boost Efficiency and Boost Productivity with Integrated Cat Technologies

- Boost productivity up to 45 percent versus traditional grading with standard Cat GRADE with 2D and Grade Assist systems – includes indicate-only and laser capability.
- Standard Grade Assist: 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.
- Standard Cat PAYLOAD on-board weighing system: Achieve precise load targets and increase loading efficiency with on-the-go weighing and real-time estimates of your payload without swinging.
- Combine the Payload upgrade with VisionLink[®] and remotely manage your production targets or take payload data with you. The monitor's USB port lets you download your results from one shift all the way up to 30 days of work so can manage your progress without needing an internet connection or VisionLink subscription.
- Upgrade to optional Cat GRADE with Advanced 2D: Create and edit grade designs with ease on a second high-resolution 254 mm (10 in) touchscreen monitor.
- Upgrade to optional Cat GRADE with 3D: Create and edit grade designs with ease and see the front linkage's full range of motion on a second high-resolution 254 mm (10 in) touchscreen monitor
- Use the excavator's onboard cell technology to quickly connect to 3D services like Trimble Connected Community or Virtual Reference Station.
- Know the excavator's absolute position relative to GPS and GLONASS systems. The machine automatically compensates for excavator pitch and roll caused by sloping ground conditions.
- Antennas have theft-prevention bolts; a special tool makes them easy for the owner to remove at the end of a shift.
- Remote troubleshoot connects you to a dealer service pro to help solve your problem and quickly get you to work.
- Remote flash works around your schedule to ensure your machine's software is up to date for optimal performance.
- Standard Product Link[™] provides location, machine hours, fuel usage, productivity, idle time, diagnostic codes, and other machine data on demand through the VisionLink online interface, helping you improve job site efficiency with lowering operating costs.



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Work in Comfort in the All-New Cab

- Choose between Comfort and Deluxe cabs – both with automatic climate control.
- Sit in wide seats that adjust for all size operators; stay warm with the Deluxe heated seat.
- Enjoy wide spacing between consoles for a more comfortable environment.
- Get in and out of the cab easier using the tip-up left console (in Deluxe cab only).
- Advanced viscous mounts reduce cab vibration up to 50 percent over previous excavator models.
- Control the excavator comfortably with easy-to-reach controls all located in front of you.
- Stow your gear with plenty of in-cab storage behind and beneath the seat, overhead, and in the consoles.
- Use the standard radio's USB ports and Bluetooth® technology to connect personal devices and make hands-free calls.

Simple To Operate

- Start the engine with a push button; use a Bluetooth key fob, smartphone app, or the Operator ID passcode.
- Program your power mode and joystick preferences using Operator ID; the excavator 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.
- Protect your hammer from overworking. Auto hammer stop warns you after 15 seconds of continuous firing and then automatically shuts it off after 30 seconds – all to prevent wear and tear on the attachment and excavator.
- Navigate quickly on the standard high-resolution 203 mm (8 in) touchscreen monitor, or with the optional 254 mm (10 in) touchscreen monitor, or with the aid of the jog dial control.
- A second 254 mm (10 in) monitor is available for the advanced grade control.
- 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 Cat App on your phone will locate the device automatically.
- Save more time and energy with available work tool recognition. 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.
- 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.

Maintenance

- Expect up to 20 percent less maintenance cost than the 320D2. (Savings calculated over 12,000 machine hours.)
- 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.
- Track your excavator's filter life and maintenance intervals via the in-cab monitor.
- Fuel filters are synchronized to be changed at 1,000 hours – double the interval from the previous filters.
- The new air intake filter with precleaner has double the dust holding capacity of the previous air intake filter.
- 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 – 50 percent longer than previous filter designs.
- High-efficiency cooling fans run only when needed; you can program intervals so they automatically reverse to keep cores clean without interrupting your work.
- S-O-SSM ports are on ground level, simplifying maintenance and allowing for quick, easy extraction of fluid samples for analysis.

Safety

- Lift Assist helps you avoid tipping. With visual and auditory alerts, you'll know if your load is within the excavator's safe working range limits.
- Standard 2D E-Fence is integrated right out of the factory to prevent the excavator from moving outside operator defined set points.
- Access 100 percent of daily maintenance points from ground level – no need for you to climb on top of the excavator.
- The standard 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 shutoff switch stops all fuel to the engine when activated and shuts down the machine.
- A rearview camera is standard, and a right-hand-sideview camera is optional. Upgrade to 360° visibility and you'll easily see objects and personnel around the excavator in a single view.
- The 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.

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
CAB			BOOM AND STICKS		
ROPS, standard sound suppression	✓		5.7 m (18'8") HD reach boom, 2.9 m (9'6") HD reach stick		✓
Mechanically adjustable seat	✓		5.7 m (18'8") HD reach boom, 2.5 m (8'2") HD reach stick		✓
Air-adjustable seat with heat (Deluxe only)		✓	8.85 m (29'0") SLR boom, 6.28 m (20'7") SLR stick		✓
High-resolution 203 mm (8 in) LCD touchscreen monitor	✓		UNDERCARRIAGE AND STRUCTURES		
High-resolution 254 mm (10 in) LCD touchscreen monitor		✓	600 mm (24") double grouser shoes		✓
CAT TECHNOLOGY			600 mm (24") triple grouser shoes		✓
Cat Product Link	✓		700 mm (28") triple grouser shoes		✓
Cat GRADE with 2D	✓		790 mm (31") triple grouser shoes		✓
Cat GRADE with Advanced 2D (not available on SLR)		✓	Tie-down points on base frame	✓	
Cat GRADE with 3D (not available on SLR)		✓	3700 kg (8,157 lb) counterweight		✓
Cat GRADE with Assist	✓		4200 kg (9,300 lb) counterweight for HD base frame		✓
Cat PAYLOAD	✓		4700 kg (10,400 lb) counterweight for SLR boom and stick		✓
2D E-Fence	✓		ELECTRICAL SYSTEM		
Lift Assist	✓		Two 1,000 CCA maintenance-free batteries	✓	
Remote Flash capability	✓		Four 1,000 CCA maintenance-free batteries		✓
Remote Troubleshoot capability	✓		Programmable time-delay LED working lights	✓	
ENGINE			LED chassis light, left-hand/right-hand boom lights, cab lights	✓	
Three selectable power modes	✓		SERVICE AND MAINTENANCE		
Automatic engine speed control	✓		Sampling ports for Scheduled Oil Sampling (S-O-S)	✓	
52° C (125° F) high-ambient cooling capacity	✓		Ground-level and platform-level engine oil dipsticks	✓	
–18° C (0° F) cold start capability	✓		SAFETY AND SECURITY		
–32° C (–25° F) cold start capability		✓	Rearview camera	✓	
Double element air filter with integrated precleaner	✓		Right-hand mirror	✓	
Reversing electric cooling fans	✓		Right-hand-sideview camera		✓
Biodiesel capability up to B20	✓		360° visibility		✓
HYDRAULIC SYSTEM			Ground-level engine shutoff switch	✓	
Boom and stick regeneration circuits	✓		Right-hand handrail and hand hold	✓	
Auto hydraulic warm up	✓		Signaling/warning horn	✓	
Auto two-speed travel	✓				
Boom and stick drift reduction valve	✓				
Hammer return filter circuit		✓			
Slider joysticks	✓				
Tool Control (two pump, one/two way high-pressure flow)		✓			
Basic Tool Control (one pump, one way high-pressure flow)		✓			
Quick coupler circuit		✓			

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Technical Specifications

Engine		
Engine Model	Cat C7.1	
Engine Power – ISO 9249	117 kW	157 hp
Engine Power – ISO 14396	118 kW	158 hp
Bore	105 mm	4 in
Stroke	135 mm	5 in
Displacement	7.01 L	428 in³

Hydraulic System		
Main System – Maximum Flow (Implement)	429 L/min	113 gal/min
Maximum Pressure – Equipment	35 000 kPa	5,075 psi
Maximum Pressure – Equipment – Heavy 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	11.25 rpm	
Maximum Swing Torque	82 kN·m	60,300 lbf·ft

Machine Weight		
Operating Weight	22 400 kg	49,400 lb
• 5.7 m (18'8") HD reach boom, 2.9 m (9'6") HD reach stick, HD 1.19 m³ (1.56 yd³) bucket, 600 mm (24") triple grouser shoes.		

Service Refill Capacities		
Fuel Tank	345 L	86.6 gal
Cooling System	25 L	6.6 gal
Engine Oil	25 L	6.6 gal
Swing Drive (each)	12 L	3.2 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	Reach 5.7 m (18'8")	
Stick	Reach 2.9 m (9'6")	
Bucket	1.19 m³ (1.56 yd³)	
Shipping Height (top of cab)	2960 mm	9'9"
Handrail Height	2950 mm	9'9"
Shipping Length	9530 mm	31'3"
Tail Swing Radius	2830 mm	9'4"
Track Length	4450 mm	14'7"
Length to Center of Rollers	3650 mm	12'0"
Ground Clearance	470 mm	1'6"
Track Gauge	2380 mm	7'9"
Transport Width – 600 mm (24") Shoes	2980 mm	9'9"
Counterweight Clearance	1050 mm	3'5"

Working Ranges and Forces		
Boom	Reach 5.7 m (18'8")	
Stick	Reach 2.9 m (9'6")	
Bucket	1.19 m³ (1.56 yd³)	
Maximum Digging Depth	6720 mm	22'1"
Maximum Reach at Ground Level	9860 mm	32'4"
Maximum Cutting Height	9370 mm	30'9"
Maximum Loading Height	6490 mm	21'4"
Minimum Loading Height	2170 mm	7'1"
Maximum Depth Cut for 2440 mm (8'0") Level Bottom	6550 mm	21'6"
Maximum Vertical Wall Digging Depth	5190 mm	17'0"
Bucket Digging Force (ISO)	150 kN	33,811 lbf
Stick Digging Force (ISO)	106 kN	23,911 lbf



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