



# 333

## Hydraulic Excavator

**The Cat® 333 Excavator gives you more digging force and increased bucket size, so you can tackle any job. A fuel-efficient hydraulic system and extended maintenance intervals help to keep your overall costs down. Reinforced structures and increased track width offer more stability and durability when working in tough applications.**

### LATEST FEATURES

- Cab Monitor Improvements.
- Continuously improved user interface allows for intuitive navigation, minimizing performance interruption with the easy-to-use touchscreen menu.
- Identify applications quickly with a grid list view, abbreviated app names, and categorized menu options.
- A notification center keeps important information visible to the operator, and displays messages without shrinking the camera view.
- Color coded notifications set critical messages apart from the rest.
- Use the in-monitor QR code to learn about machine and technology features through a full suite of “how-to” videos.

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

*Build Number: 07F*

### HIGH PERFORMANCE WITH LOWER FUEL CONSUMPTION

- The high fuel efficiency keeps you focused on the job and budget.
- The Cat C7.1 engine gives you powerful hydraulic power to work with different types of material.
- Large bucket capacity means fewer passes to move material faster.
- Get up to 7% more productivity with increased bucket and stick forces and larger bucket compared to the 330.
- Match the excavator to the job with three power modes – Smart, Power, and Eco. Smart mode automatically matches engine and hydraulic power to digging conditions, providing maximum power when needed and reducing power when it isn’t to help save fuel. Power mode is maximum power all the time. Eco mode reduces engine speed and keeps it constant to reduce fuel consumption.
- The high-efficiency hydraulic fan cools the engine on demand to help reduce fuel consumption; available reverse function makes it easy to keep cores clean.
- Self-sharpening Advansys™ bucket tips option increase production and lower costs.
- 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 high-ambient capability of 50°C (122°F) and cold start capability of -18°C (0°F).

### RELIABLE IN TOUGH CONDITIONS

- Reinforced booms, sticks, and linkage keep you moving from job to job. The reinforced frame makes the machine more durable and built to last.
- The increased track width\* of +150 mm (6 in) gives you more critical stability to work with large buckets or on uneven surfaces while still being within transport width requirements.
- Automatic hydraulic oil warm up gets you to work faster in cold temperatures and helps prolong the life of components.
- Two levels of filtration protect the engine from diesel fuel.
- Grease sealed between track pins and bushings reduces travel noise and prevents debris from entering to increase undercarriage life.
- The sloped track frame prevents mud and debris accumulation, helping reduce risk of track damage.
- Work up to 4500 m (14,760 ft) above sea level with engine power derate above 3000 m (9,840 ft).

*\*Compared to the 330.*

### SIMPLE TO OPERATE

- Start the engine with the push-to-start button.
- Program each joystick button, including power mode, response, and pattern, using Operator ID; the machine will remember what you set each time you go to work.
- 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.
- 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
- Use the in-monitor QR code to learn about machine and technology features through a full suite of “how-to” videos.



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## WORK IN COMFORT

- The comfort cab offers a mechanically adjustable seat suspension and an automatic heating/air conditioning system.
- Navigate quickly with the high-resolution 203 mm (8 in) touchscreen monitor to view machine information.
- 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.
- Use the standard radio's USB ports and Bluetooth® technology to connect personal devices and make hands-free calls.

## EASY TO MAINTAIN

- Long life for fuel, oil and air filters keeps you out of the shop and working on the job longer.
- Oil and fuel filters are grouped together and located on the righthand side of the machine for easy maintenance.
- The air intake filter with precleaner has double the dust holding capacity of the previous air intake filter.
- Check the hydraulic system oil and easily drain fuel system water and fuel tank water from ground level.
- Track your excavator's filter life and maintenance intervals via the in-cab monitor. The optional engine oil sensor tracks your oil levels, which helps to speed up your daily maintenance routine.
- 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% longer than previous filter designs.
- The high-efficiency hydraulic fan has an optional automatic reverse function to keep cores free from debris, eliminating the need for any operator interaction.
- 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.
- Scheduled Oil Sampling (S-O-S<sup>SM</sup>) ports simplify maintenance and allow for quick, easy extraction of samples for fluid analysis.

## SAFELY HOME EVERY DAY

- 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.
- A ground-level shutoff switch stops all fuel to the engine when activated and shuts down the machine.
- Add optional rear- and right-hand-side cameras for added visibility to your surroundings.
- Serrated steps and anti-skid punch plate on the service platform help prevent slipping.
- Enhance jobsite safety. Add a swing alarm to alert people when you're rotating from trench to stockpile and back again.

## SUSTAINABILITY

- The Cat C7.1 engine meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 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.
- 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.
- Don't waste fuel idling. Cat VisionLink® online fleet monitoring helps you manage idle time and reduce fuel burn and greenhouse gas emissions.
- 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.
- Auto Engine Speed Control helps reduce unnecessary fuel burn and greenhouse gas emissions by allowing the engine to automatically go into idle mode when the machine is not working.
- When engaged, one-touch idle helps operators conserve fuel and reduce greenhouse gas emissions by lowering engine speed when the machine is under no load and return to normal operating speed when desired.
- Engine Idle Shutdown Timer reduces fuel burn, greenhouse gas emissions and unnecessary idle time by shutting down the machine after a pre-set idling period.
- 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 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.
- A well-trained operator is worth the investment. Skilled operators benefit your bottom line by maximizing productivity, avoiding costly downtime, and maintaining jobsite safety – which can help to improve fuel efficiency and reduce greenhouse gas emissions.  
*\*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.*

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

	Standard	Optional
<b>UNDERCARRIAGE AND STRUCTURES</b>		
Long undercarriage	✓	
Grease lubricated track link	✓	
7700 kg (16,980 lb) counterweight	✓	
600 mm (24") double grouser track shoes		✓
600 mm (24") triple grouser track shoes (Turkey only)		✓
600 mm (24") HD triple grouser track shoes (Turkey only)	✓	
700 mm (28") triple grouser track shoes (Chile, Colombia only)		✓
800 mm (31") triple grouser track shoes (Chile, Colombia only)		✓
<b>BOOMS AND STICKS</b>		
5.55 m (18'2") Mass boom (optional Chile, Colombia)	✓	
2.5 m (8'2") Mass stick (optional Chile, Colombia)	✓	
6.15 m (20'2") HD Reach boom (Chile, Colombia only)		✓
10.2 m (33'6") Super Long Reach boom (Chile, Colombia only)		✓
3.2 m (10'6") HD Reach stick (Chile, Colombia only)		✓
7.85 m (25'9") Super Long Reach stick (Chile, Colombia only)		✓
<b>CAT TECHNOLOGY</b>		
VisionLink	✓	
Remote Flash	✓	
<b>CAB</b>		
ROPS	✓	
High-resolution 203 mm (8") LCD touchscreen monitor	✓	
Mechanically adjustable seat suspension	✓	
Cat stick steer		✓
<b>ENGINE</b>		
Cat C7.1 twin turbo diesel engine	✓	
Two selectable modes: Power, Smart	✓	
Automatic engine speed control	✓	
Up to 4500 m (14,760 ft) altitude capability with engine power derate above 3000 m (9,840 ft)	✓	
50°C (122°F) high-ambient cooling	✓	
-18°C (0°F) cold start capability	✓	
Double element air filter with integrated pre-cleaner	✓	
Electric cooling fans with auto reverse function	✓	

	Standard	Optional
<b>ELECTRICAL SYSTEM</b>		
Maintenance-free 1,000 CCA batteries	✓	
Centralized electrical disconnect switch	✓	
Programmable time-delay working lights	✓	
LED chassis, boom, and cab lights	✓	
<b>SERVICE AND MAINTENANCE</b>		
Grouped location of engine oil and fuel filters	✓	
S-O-S ports	✓	
Integrated vehicle health management system	✓	
<b>HYDRAULIC SYSTEM</b>		
Boom and stick regeneration circuit	✓	
Electronic main control valve	✓	
Automatic hydraulic oil warm up	✓	
Automatic two-speed travel	✓	
<b>SAFETY AND SECURITY</b>		
Service platform with anti-skid plate and countersunk bolts	✓	
Rearview camera	✓	
Lockable disconnect switch	✓	
Auto hammer stop		✓
Right-hand side mirror (Chile, Colombia only)		✓
Right-hand side-view camera (mandatory for Turkey)		✓
Travel alarm		✓
Swing alarm		✓

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## Technical Specifications

Engine		
Net Power – ISO 9249	223.7 kW	300 hp
Engine Model	Cat C7.1	
Engine Power – ISO 14396	225 kW	302 hp
Bore	105 mm	4 in
Stroke	135 mm	5 in
Displacement	7.01 L	428 in <sup>3</sup>
Biodiesel Capability	Up to B20 <sup>(1)</sup>	
Emissions	Meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.	

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 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	560 L/min	148 gal/min
Maximum Pressure – Equipment	35 000 kPa	5,075 psi
Maximum Pressure – Travel	35 000 kPa	5,075 psi
Maximum Pressure – Swing	29 800 kPa	4,321 psi

Swing Mechanism		
Swing Speed	11.5 r/min	11.5 r/min
Maximum Swing Torque	111 kN·m	81,869 ft·lbf

Weights		
Operating Weight	32 500 kg	71,600 lb
Long undercarriage, Mass boom, M2.5 (8'2") stick, HD 2.36 m <sup>3</sup> (3.08 yd <sup>3</sup> ) bucket, 600 mm (24") triple grouser shoes, and 7700 kg (16,980 lb) counterweight.		

Dimensions		
<b>Boom</b>	<b>Mass 5.55 m (18'2")</b>	
<b>Stick</b>	<b>Mass 2.5 m (8'2")</b>	
<b>Bucket</b>	<b>HD 2.36 m<sup>3</sup> (3.08 yd<sup>3</sup>)</b>	
Shipping Height – Top of Cab	3060 mm	10 ft
Handrail Height	3060 mm	10 ft
Shipping Length	9870 mm	32.4 ft
Tail Swing Radius	3130 mm	10.3 ft
Counterweight Clearance	1120 mm	3.7 ft
Ground Clearance	480 mm	1.6 ft
Track Length	4860 mm	15.9 ft
Length to Center of Rollers	3990 mm	13.1 ft
Track Gauge	2740 mm	9 ft
Transport Width	3340 mm	11 ft

Service Refill Capacities		
Fuel Tank Capacity	474 L	125.2 gal
Cooling System	25 L	6.6 gal
Engine Oil	25 L	6.6 gal
Swing Drive – Each	11.5 L	3 gal
Diesel Exhaust Fluid (DEF) Tank	41 L	10.8 gal
Final Drive – Each	4.5 L	1.2 gal
Hydraulic System – Including Tank	310 L	81.9 gal
Hydraulic Tank	147 L	38.8 gal

Working Ranges and Forces		
<b>Boom</b>	<b>Mass 5.55 m (18'2")</b>	
<b>Stick</b>	<b>Mass 2.5 m (8'2")</b>	
<b>Bucket</b>	<b>HD 2.36 m<sup>3</sup> (3.08 yd<sup>3</sup>)</b>	
Maximum Digging Depth	6140 mm	20.1 ft
Maximum Reach at Ground Level	9480 mm	31.1 ft
Maximum Cutting Height	9160 mm	30.1 ft
Maximum Loading Height	5960 mm	19.6 ft
Minimum Loading Height	2430 mm	8 ft
Maximum Depth Cut for 2440 mm (8 ft) Level Bottom	5950 mm	19.5 ft
Maximum Vertical Wall Digging Depth	4280 mm	14 ft
Bucket Digging Force – ISO	210 kN	47,210 lbf
Stick Digging Force – ISO	152 kN	34,170 lbf

**Air Conditioning System**  
The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 0.85 kg (1.9 lb) of refrigerant which has a CO<sub>2</sub> equivalent of 1.216 metric tonnes (1.340 tons).

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Build Number: 07F  
(Chile, Colombia, Turkey)

