



# Cat<sup>®</sup> 990K

## Wheel Loader

***The Cat<sup>®</sup> 990K Wheel Loader helps you move more material in less time, at a lower cost per ton, for a faster return on your investment. This machine offers significant fuel savings, lower maintenance costs, and greater productivity and durability to achieve multiple life cycles.***

### Proven Reliability

- Cat C27 engine is built and tested to meet your most demanding applications.
- Longer engine life and improved fuel efficiency with reduced rated speed.
- Designed for longer life, rebuildability, and higher resale value.
- Maximum responsiveness with Steering and Integrated Control (STIC™).
- Moves more material more efficiently with improved power and control.
- Durable construction withstands the toughest loading conditions and multiple life cycles.

### Durability

- Best-in-class transmission for long life and consistent, smooth shifting; specifically designed for mining applications.
- Advanced filtration system for extended performance and reliability of the hydraulic system.
- Advanced Impeller Clutch Torque Converter (ICTC) and Rimpull Control System (RCS) reduce tire slippage and wear, improve fuel efficiency, and reduce cost-per-ton.
- Linkage pin joints have optional auto-lube system to ensure long life.
- Frame resists torsional shock and twisting forces.
- Heavy-duty steering cylinder mounts and axle mounting ensure increased structural integrity.

### Achieve Greater Productivity

- Up to 10% more payload per pass on truck-loading applications with Performance Series Buckets.
- Payload increase to optimize pass on 775 trucks.
- Positive Flow Control (PFC) hydraulic system increases efficiency, bucket feel, and responsiveness with consistent performance.
- Excellent visibility to the bucket edges and work area through a Z-bar linkage.
- Planetary power shift transmission for maximum uptime.
- Convenient, responsive, electro-hydraulic controls increase operator productivity.
- Superior digging, higher bucket fill factors, reduced dig times.
- Integrated steering and transmission controls.
- Operators can check tire pressure during operation with any change sending a fault code to VisionLink<sup>®</sup>, preventing premature tire failure.

### Superior Fuel Efficiency

- Up to 54% fuel efficiency material per gallon of fuel (27% less fuel consumption).
- Economy mode for reduced rated engine speed and reduced fuel consumption.
- Positive flow-control hydraulics for full flow on demand at lower engine speeds.
- Engine Idle Shutdown for less fuel used while idling.
- Fully integrated electronic engine controls make your fuel go farther.



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## Increase Productivity and Efficiency with Integrated Technologies

- Developed to monitor, manage, and enhance your jobsite operations.
- Payload provides accurate weighing\* of the materials you are loading and hauling. Payload data is displayed in real-time to improve productivity and reduce overloading.
- Detect enhances awareness of the environment around working equipment and provides alerts to help keep people and assets safe on the jobsite.
- VisionLink wirelessly connects you to your equipment, giving you access to essential information you need to know to run your business.
- Gain valuable insight into how your machine or fleet is performing.
- Optional Advanced Productivity subscription provides comprehensive actionable information to help you manage and improve the productivity and profitability of your operations.

## Reduced Maintenance and Other Costs

- 10% lower maintenance costs.
- Grouped service points.
- Electro-hydraulic controls.
- Swing-out engine compartment service doors.
- Ecology drains to prevent spilled contaminants.
- Ground level access to transmission control valves.
- Vehicle Information Management System (VIMS™) notifications to resolve problems before failure.
- Longer life, rebuildability, and high resale value.

## Safety Features

- Standard stairway lighting.
- Left- and right-hand stairs with 45-degree angle.
- Standard Cat Vision, rear vision camera system.
- Pressurized cabin with filtered and reduced sound levels.

## Easy, Comfortable Operator Environment

- Best-in-class operator comfort and ergonomics.
- Comfort Series III seats with extra thick, contoured cushions (optional heated and ventilated seats).
- Easy-to-reach levers and controls with seat-mounted implement pod to reduce fatigue.
- Ergonomic switch placement and displays with large backlit switches, LED indicators, and ISO symbols.
- Optional heated mirrors.
- Two-position rocker switch activates the electro-hydraulic parking brake.
- Reduced vibrations from isolated cab mounts and seat air suspension.
- Automatic cab temperature controls.
- Achieve precise positioning for easy loading in tight areas with 35 degrees of steering articulation.
- Precise machine control by load-sensing hydraulic steering system.

*\*Not legal for trade.*

## Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
<b>ELECTRICAL</b>			<b>POWER TRAIN (CONTINUED)</b>		
Alarm, back-up	✓		Engine, C27	✓	
Alternator, 150 amp	✓		Engine block heater 120V or 240V		✓
Batteries, maintenance free (2 – 1,400 CCA)	✓		Engine oil change system, high speed, Wiggins		✓
Converter, 10/15 amp, 24V to 12V	✓		Fuel priming pump (electric)	✓	
Lighting system, halogen (front and rear) lighting, access stairway, engine compartment	✓		Ground level engine shutoff, bumper	✓	
Starter, electric	✓		High ambient cooling – software		✓
Starter lockout in bumper	✓		Mufflers (under hood) – Tier 2 equivalent only	✓	
Starter receptacle for emergency start	✓		Precleaner engine air intake	✓	
Transmission lockout in bumper	✓		Radiator, Aluminum Modular Radiator (AMR)	✓	
<b>OPERATOR ENVIRONMENT</b>			<b>OTHER</b>		
Air conditioner and heater with automatic heater control	✓		Automatic bucket lift kickout/positioner	✓	
Cab precleaner, powered	✓		Axle oscillation stop		✓
Cab, sound suppressed and pressurized, protective structure (ROPS/FOPS)	✓		Axle temperature sensor	✓	
Cat Vision, rear vision camera system	✓		Battery disconnect and jump start receptacle bumper	✓	
CB radio ready		✓	Cab mounts, heavy duty		✓
Cigar lighter and ashtray	✓		Economy mode with on demand throttle	✓	
Coat hook	✓		Emergency platform egress	✓	
Flip-up armrest	✓		Engine, crankcase 500-hour interval with CH4	✓	
Heater and defroster	✓		Engine idle management: auto idle kickdown, delayed engine shutdown, engine idle shutdown	✓	
Horn, electric	✓		Fast fill fuel system (Shaw-Aero)		✓
Implement hydraulic lockout	✓		Fenders, front and rear roading		✓
Keypad control with indicator lights	✓		Fenders, steel (front)	✓	
LED warning strobe		✓	Grouped/labeled lube points	✓	
Lunchbox, beverage holders	✓		Guards, crankcase and power train	✓	
Mirrors, rearview (externally mounted)	✓		Hitch, drawbar with pin	✓	
Radio, AM/FM/CD/MP3, Bluetooth® with Satellite Sirius		✓	Oil sampling valves	✓	
Seat – leather/cloth, air suspension, heated/cooled	✓		Positive flow control hydraulic system	✓	
Seat belt minder	✓		Premixed 50% concentration of extended life coolant with freeze protection to -34° C (-29° F)	✓	
Seat belt, retractable, 76 mm (3 in) wide	✓		Product Link™	✓	
STIC System with steering lock	✓		Sight gauges: hydraulic tanks, steering/fan and implement/brake, and transmission	✓	
Tinted glass	✓		Stairway, left and right rear access	✓	
Trainer seat with lap belt	✓		Steering, load sensing	✓	
Wet-arm wipers/washers (front, rear, and corner), intermittent front wiper	✓		Tire Pressure Monitoring System		✓
Window pull-down visor		✓	Toe kicks	✓	
<b>POWER TRAIN</b>			Vandalism protection caplocks		
Antifreeze, -50° C (-58° F)		✓	Venturi stack		
Axle-shift oil-disc service brake	✓				
Brakes, oil-disc, full hydraulic, enclosed	✓				
Case drain screens	✓				
Cat clean emission module (CEM) – Tier 4 only	✓				
Demand fan	✓				
Electro hydraulic parking brake	✓				

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## Technical Specifications

### Engine

Engine Model	C27	
Rated Speed	1,800 rpm	
Gross – ISO 14396	561 kW	752 hp
Gross – SAE J1995	571 kW	766 hp
Net Power – SAE J1349 (Standard Ambient)	521 kW	699 hp
Net Power – SAE J1349 (High Ambient)	483 kW	648 hp
Bore	137.2 mm	5.4 in
Stroke	152.4 mm	6.0 in
Displacement	27.03 L	1,649.5 in <sup>3</sup>
Peak Torque (1,200 rpm)	3557 N·m	2,624 lbf-ft
Torque Rise	18%	

Two engine emission options are available:

1. Meets U.S. EPA Tier 4 Final and EU Stage V emission standards.
2. Equivalent to U.S. EPA Tier 2 and EU Stage II.

### Operating Specifications

Operating Weight – Standard	80 974 kg	178,517 lb
Rated Payload – Standard	15.9 tonnes	17.5 tons
Rated Payload – High Lift	15.9 tonnes	17.5 tons
Bucket Capacity Range	8.6-10.0 m <sup>3</sup>	11.25-13.0 yd <sup>3</sup>
Cat Truck Match – Standard	773-775	
Cat Truck Match – High Lift	775-777	

### Transmission

Transmission Type		Cat planetary power shift			
Speed	km/h	mph	Speed	km/h	mph
Forward 1	7.3	4.5	Direct Drive Forward 1	Lock-up disabled	
Forward 2	13.3	8.3	Direct Drive Forward 2	13.7	8.5
Forward 3	22.9	14.2	Direct Drive Forward 3	24.5	15.2
Reverse 1	7.9	4.9	Direct Drive Reverse 1	8.7	5.4
Reverse 2	14.7	9.1	Direct Drive Reverse 2	15.4	9.6
Reverse 3	24.9	15.5	Direct Drive Reverse 3	26.4	16.4

- Travel speeds based on Michelin 45/65R39 LD D2\*\*L5 tires.

### Hydraulic System – Lift/Tilt

Lift/Tilt System – Circuit	Positive flow control	
Lift/Tilt System	Variable displacement piston	
Relief Valve Setting – Lift/Tilt	33 000 kPa	4,786 psi

### Hydraulic Cycle Time

Rackback	4.3 Seconds
Raise	8.2 Seconds
Dump	2.9 Seconds
Lower	3.7 Seconds
Lower Float Down	3.6 Seconds
Total Hydraulic Cycle Time (empty bucket)	13.8 Seconds

### Hydraulic System – Steering

Steering	ISO 5010:2007	
Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Variable displacement piston	
Relief Valve Setting – Steering	32 000 kPa	4,641 psi
Total Steering Angle	70°	

### Service Refill Capacities

Fuel Tank	1114.0 L	294.3 gal
Transmission	110.0 L	29.1 gal
Differentials and Final Drives – Front	271.0 L	71.6 gal
Differentials and Final Drives – Rear	261.0 L	68.9 gal
Hydraulic System Factory Fill	795.0 L	210.0 gal
Hydraulic Tank (Implement and Hydraulic Fan)	261.0 L	68.9 gal
Hydraulic Tank (Steering and Braking)	132.0 L	34.9 gal

- All nonroad U.S. EPA Tier 4 Final/Stage V diesel engines are required to use only Ultra Low Sulfur Diesel (ULSD) fuels containing 15 ppm (mg/kg) sulfur or less. Biodiesel blends up to B20 (20% blend by volume) are acceptable when blended with 15 ppm (mg/kg) sulfur or less ULSD. B20 should meet ASTM D7467 specification (biodiesel blend stock should meet Cat biodiesel spec, ASTM D6751 or EN 14214. Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specification are required. For further fluid specifications and guidelines, visit: <http://parts.cat.com/cda/files/3244668/7/SEBU6250-19.pdf>.

### Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.7 kg of refrigerant which has a CO<sub>2</sub> equivalent of 3.861 metric tonnes.

### Operator Cab

ROPS/FOPS	ROPS/FOPS meet ISO 3471:2008 and ISO 3449:2005 Level II standards
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### Sound Performance – Tier 4 Final/Stage V

	Standard	Suppression
Operator Sound Level (ISO 6396:2008)	69 dB(A)	69 dB(A)
Machine Sound Level (ISO 6395:2008)	115 dB(A)	113 dB(A)

### Sound Performance – Tier 2/Stage II Equivalent

	Standard	Suppression
Operator Sound Level (ISO 6396:2008)	69 dB(A)	69 dB(A)
Machine Sound Level (ISO 6395:2008)	115 dB(A)	113 dB(A)

- The machine sound power level was measured according to the test procedures and conditions specified in ISO 6395:2008. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.
- The operator sound pressure level was measured according to the test procedures and conditions specified in ISO 6396:2008. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.



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