

# 990K

Wheel Loader



## Engine

Engine Model	Cat® C27 ACERT™	
Emissions	U.S. EPA Tier 4 Final OR Tier 2 Equivalent	
Gross (ISO 14396)	561 kW	752 hp
Net Power – SAE J1349	521 kW	699 hp

## Buckets

Bucket Capacities	7.4-14.9 m <sup>3</sup>	9.7-19.5 yd <sup>3</sup>
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## Operating Specifications

Rated Payload	15.9 tonnes	17.5 tons
Operating Weight	80 974 kg	178,517 lb

# Lower your cost per ton with industry leading performance.

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**Cat Large Wheel Loaders are designed with durability built in, ensuring maximum availability through multiple life cycles. With optimized performance and simplified serviceability, our machines allow you to move more material efficiently and safely at a lower cost per ton.**

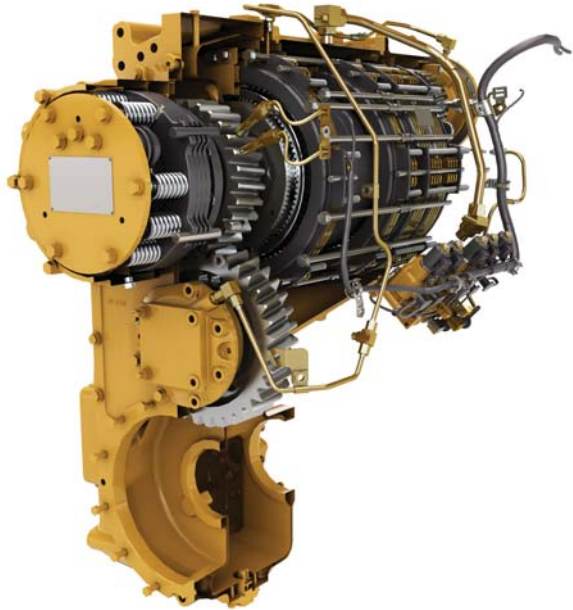
**The Cat 990 Wheel Loader has been a proven performer in mines, quarries and industrial applications around the world. The 990K brings all new levels of performance, safety, operator comfort and efficiency.**



### **Steering and Transmission Integrated Control System (STIC™)**

Experience maximum responsiveness and control with STIC that combines directional selection, gear selection and steering into a single lever.

- Simple side-to-side motion turns machine right or left, minimizing operator movements.
- Easy to operate finger controlled gear selection.
- Smoother, faster cycles and less operator fatigue through the use of low effort integrated controls.



### **Cat Planetary Powershift Transmission**

Building your success begins with a best-in-class transmission designed specifically for mining applications

- Consistent, smooth shifting and efficiency through integrated electronic controls.
- Long life and reliability through heat treat gear and metallurgy.
- Three forward and three reverse speeds to match your application.

### **Cat C27 ACERT Engine**

Durability and efficiency at the heart of your 990K comes from the Cat C27 ACERT Engine. Optimum performance is built in through the use of a 12 cylinder, direct injection design.

- Optimized performance and quick engine response with an electronic control module.
- Reliable efficiency with complete control over injection timing, duration and pressure with Mechanically Actuated Electronic Unit Injection (MEUI™).
- Extended engine life and improved fuel efficiency with reduced rated speed.
- Available in two versions: one that meets Tier 4 Final emission standards, and another that meets emission standards equivalent to Tier 2 emission standards.



# Power Train

Move material more efficiently with improved power and control.



## **Impeller Clutch Torque Converter (ICTC) and Rimpull Control System (RCS)**

Lower your cost per ton utilizing advanced ICTC and RCS for modulated rimpull.

- Reduce tire slippage and wear by modulating rimpull from 100 to 25 percent while depressing left pedal. After 25 percent rimpull is achieved the left pedal applies the brake.
- Reduce the potential for wheel slippage without reducing hydraulic efficiency with RCS.
- Improve fuel efficiency in certain applications with our lock-up clutch torque converter providing direct drive.

# Hydraulics

Productivity enabling you to move more and make more.



## Positive Flow Control Hydraulics

Increase efficiency through our Positive Flow Control (PFC) Hydraulic System. PFC has concurrent pump and valve control. By optimizing pump control, hydraulic oil flow is proportionate to implement lever movement.

- Fast, productive cycles are enabled by the fully variable implement pump.
- Increase bucket feel and control through increased hydraulic response.
- Consistent performance and efficiency with lower system heat.
- Full hydraulic flow down to 1,600 engine rpm.

## Electro Hydraulic Controls

Operators increase productivity with our responsive implements feature.

- Operate comfortably through electronically controlled hydraulic cylinder stops.
- Handle easy-to-use soft detent controls.
- Conveniently set automatic implement kickouts from inside the cab.

## Steering System

Confident loader operation starts with precise machine control enabled by the 990K's load sensing hydraulic steering system.

- Increase efficiency with our variable displacement piston pumps.
- Achieve precise positioning for easy loading in tight areas with 35 degrees of steering articulation.
- Enhance operator comfort with integrated steering and transmission control functions.

## Filtration System

Benefit from extended performance and reliability of your hydraulic system with our advanced filtration system.

- Case drain screens.
- Hydraulic oil cooler return filter.
- Pilot filter.
- Return screens inside hydraulic tank.
- Axle oil cooler screens if equipped.





**Your operators can work more efficiently and stay comfortable with our customer-inspired cab features.**

### **Entry and Exit**

Enter and exit the cab easily and safely with these newly designed, ergonomic features.

- Fold up STIC steer/armrest.
- Reduced access stairway angles.
- Standard stairway lighting.

### **Cat Comfort Series III Seat**

Enhance comfort and reduce operator fatigue with Cat Comfort Series III seat.

- Mid back design and extra thick, contoured cushions.
- Air suspension system.
- Easy-to-reach seat levers and controls for six way adjustments.
- Seat-mounted implement pod and STIC steer that moves with the seat.
- 76 mm (3 in) wide retractable seat belt.
- Optional heated and ventilated seats.

### **Control Panel**

Ergonomic placement of switches and Information display keep your operators comfortable all day every day.

- Large backlit membrane switches feature LED activation indicators.
- Switches feature ISO symbols for quick function identification.
- Two position rocker switch activates the electro hydraulic park brake.



### **Environment**

Your operator's productivity is enhanced with our clean, comfortable cab environment.

- Experience reduced vibrations from isolation cab mounts and seat air suspension.
- Maintain desired cab temperature with automatic temperature controls.
- Pressurized cab with filtered air.
- Sound level reduced to a quiet 69 dB(A).
- Convenient floor storage tray/lunch box.







# **Operator Station**

Best-in-class operator comfort and ergonomics.

# Structures

Best built for the toughest conditions.



## Lift Arms

- Excellent visibility to the bucket edges and work area through a Z-bar design.
- High load stresses are absorbed by the solid steel lift arms.
- Enhance strength in key pin areas through the use of one piece castings.
- Stress relieved lift arms increase durability and lengthen time to repair.



### **Robust Structures**

Your bottom line is improved by highly durable structures that achieve multiple life cycles and withstand the toughest loading conditions.

- Full box-section rear frame resists torsional shock and twisting forces.
- Heavy-duty steering cylinder mounts efficiently transmit steering loads into the frame.
- Axle mounting has been optimized for increased structural integrity.



### **Front Linkage**

To ensure long life and reliability, the linkage pin joints feature a greased pin design with an auto lube system attachment available from the factory.

# Efficiency

Delivering fuel efficiency you demand through integrated machine systems.



## Economy Mode

Enabling maximum productivity and efficiency, all day every day.



The 990K systems work hard to save you fuel through advanced technologies. Utilizing On Demand Throttle, operators maintain normal operation with the left pedal and implements while the 990K manages the engine speed.

- Provides similar control and feel to our traditional throttle lock feature.
- Efficiency of manual throttle and the ergonomics of throttle lock.

## Cat C27 ACERT Engine

The Cat C27 ACERT engine is built and tested to meet your most demanding applications while meeting Tier 4 Final OR Tier 2 Equivalent emission standards.

- Fully integrated electronic engine controls works in concert with the entire machine to make your fuel go farther.
- Use less fuel idling with Engine Idle Shutdown.
- Maximized durability with Delayed Engine Shutdown.



## Cat Planetary Powershift Transmission

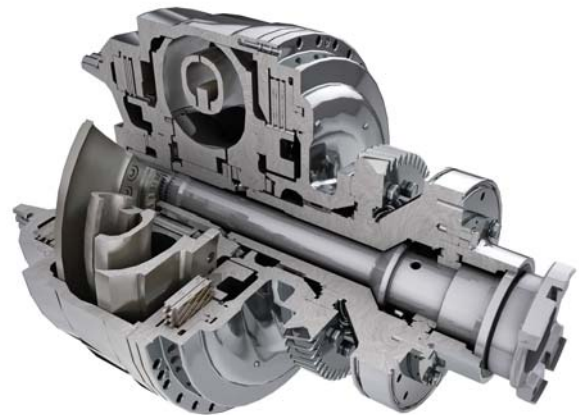
Maximize your uptime with the proven planetary power shift transmission. Improved shift quality, component life and operator comfort with our electronic transmission controls.



## Impeller Clutch Torque Converter (ICTC)

Enable your operators to maximize efficiency by varying machine rimpull while putting more horsepower to hydraulics.

- Reduced tire wear
- Enables full throttle shifts for faster cycle times
- Provides smooth approach to the dump target for less spillage and faster cycle times.



## Cat Torque Converter with Lock-up Clutch

- Eliminates TC losses while lowering system heat
- Improves travel speeds
- Reduces cycle times in load and carry operations



# Technology Solutions

Greater productivity through  
Integrated Electronic Systems.

Integrated electronics provide flexible levels of information to both the site and the operator. This integration creates a smart machine and more informed operator, maximizing the productivity of both.

## Information Display

We have worked hard to help our customers and operators perform at their best through our newly upgraded touch screen information display.

- Intuitive operation and easy navigation with our enhanced user interface.
- Decrease service time by keeping operators informed about machine systems.
- Quick on-the-go weighing with the Cat Production Measurement.

## Cat Product Link™

Take the guesswork out of asset management with Product Link remote monitoring.

- Remote access to information through the easy-to-use VisionLink® interface.
- Maximize uptime by staying informed on machine systems and diagnostic codes.
- Track machine with utilization, fuel usage, and payload summaries.
- Stay up to date on machine location, service meter hours, and reporting status.

## Vital Information Management System (VIMS™)

Connect directly to the machine for access to a wide range of sensor information and enhanced machine data.

- Create productivity reports with payload and work cycle segmentation.
- Identify operator training needs through productivity data.
- Detailed data logging of machine parameters and diagnostic codes.
- Track machine sensor information with trend analysis and histograms to monitor machine health.



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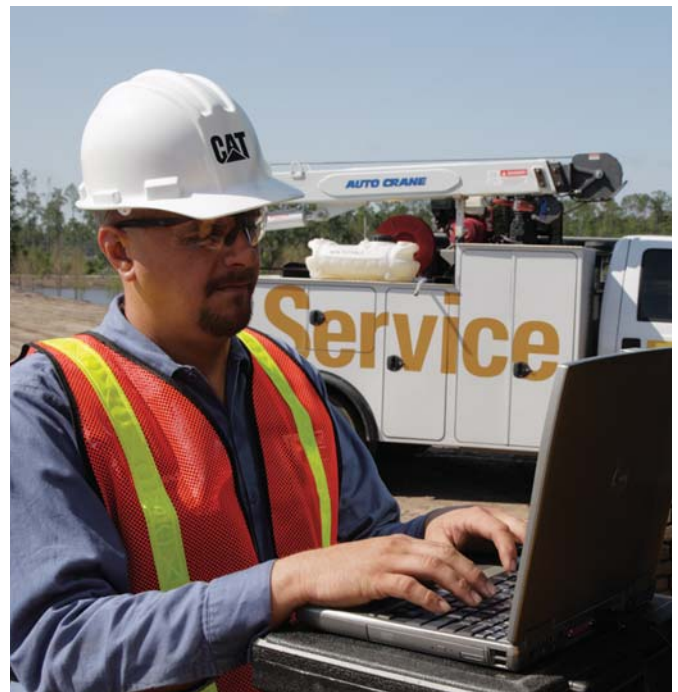
Groups > Fleet 1 > 6 Results

Select Assets

Fluid Analysis

Asset ID	Total	Lab Number	Source	Sample Date	Meter Reading	Severity	Status
Line 20							
Line 12		Y123-456789-1234	RADIATOR	09/05/12	2873 hrs	Action Required	Action Taken
Line 48		Y234-567891-2345	RADIATOR	09/19/12	5560 hrs	Monitor	Action Taken
Line 36		Y345-678912-3456	ENGINE	09/11/12	900 hrs	No Action	Action Taken
Line 11							
Line 23							

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# Serviceability

Enabling high uptime by reducing your service time.

**We can help you succeed by ensuring your 990K has design features to reduce your downtime.**

- Safe and convenient service with ground level or platform access and grouped service points.
- Swing-out doors on both sides of the engine compartment provide easy access to important daily service checks.
- Ecology drains for ease of service and prevention of spills.
- Reduce downtime with VIMS system notifications so your operators and technicians can resolve any problems before failure.
- Ground level access to transmission control valves.



## Customer Support

Your Cat dealers know how to keep your machines productive.



### Legendary Cat Dealer Support

A valued partner, your Cat dealer is available whenever you need them.

- Preventive maintenance programs and guaranteed maintenance contracts.
- Best-in-class parts availability.
- Improve your efficiency with operator training.
- Genuine Cat Remanufactured parts.

# Safety

Making your safety our priority.



**We are constantly introducing features on our machines in an effort to enhance safety for the operators.**

## **Machine Access**

- Left and right hand stairs with 45 degree angle enhance safety for operators getting on and off the 990K.
- Continuous walkway with non-skid surfaces are designed into the service areas.
- Maintain three points of contact at all times through ground level or platform accessible service areas.





## Visibility

- Optional heated mirrors ensure enhanced visibility for safe operation.
- Standard Cat Vision or optional Cat Detect with radar increase operator awareness around the machine.
- Optional HID or LED lights provide excellent workspace visibility.
- Optional cab mounted LED warning beacons.

## Operator Environment

- Reduced vibrations to the operator with isolated cab mounts and seat mounted implement and steering controls.
- Low interior sound levels.
- Pressurized cab with filtered air.
- Safely train other operators in comfort with our standard training seat.
- Standard 76 mm (3 in) seat belts on the operator seat and the standard trainer seat.

# Sustainability

Making sustainable progress possible.



## Sustainable Benefits

Sustainability is designed and built into our 990K's features.

- Engine Idle Shutdown can help you save fuel by avoiding unnecessary idling.
- The 990K is built for multiple lives. To assist with maximizing machine life, Caterpillar provides a number of sustainable options such as our Reman and Certified Rebuild programs. In these programs, reused or remanufactured components can deliver cost savings of 40 to 70 percent, which lowers operating cost.
- Caterpillar offers retrofit packages to bring new features to older machines, maximizing your resource. And, when you go through the Cat Certified Rebuild program, these retrofit kits are part of the rebuild process.

# System Match Efficiency

Efficient loading/hauling system starts with a perfect match.



	<b>773</b>	<b>775</b>	<b>777</b>
Standard Lift	3	4	
High Lift	3	4	6

## Efficient Combination

For full truck payloads with minimum loading time, an efficient loading/hauling system starts with a perfect match. Cat wheel loaders are matched with Cat off-highway trucks to maximize volume of material moved at the lowest operating cost per ton. The 990K equipped with the standard linkage will pass match the 773 (54 tonnes/60 tons) in 3 passes and the 775 (64 tonnes/70 tons) in 4 passes. Equipped with a high lift linkage the 990K is capable of loading a 777 (91 tonnes/100 tons) in 6 passes.

# Bucket Ground Engaging Tools

Protect your investment.



## Performance Series Buckets

Performance Series Buckets feature an optimized profile maximizing material retention and minimizing dig time, translating into significant productivity and fuel efficiency improvements. All 990K buckets are manufactured with the Performance Series design.

## Rock Bucket

**Applications:** Face loading tightly compacted pit materials.

## General Purpose Bucket

**Applications:** Loading loose, stockpiled material.

## GET Options

Multiple GET options are available to customize your 990K to your application, such as:

- Sidebar protectors.
- General duty and penetration tips.
- Standard and half arrow segments.

Enhance the productivity of your loader and protect your investment in buckets with our Ground Engaging Tools (GET). Your knowledgeable Cat dealer will work with you to understand your application and needs for the GET that is best for you.



# Operating Costs

Save Time and Money by Working Smart.



Data from customer machines show Cat wheel loaders are among the most fuel efficient machines in the industry.

Several features contribute to this excellent fuel efficiency:

- **Performance Series Buckets** – Deliver faster fill times and better material retention, ultimately reducing cycle times while improving productivity and fuel efficiency.
- **Positive Flow Control Hydraulics** – Provides only the hydraulic flow required by the implement systems for improved fuel efficiency and greater rimpull.
- **ACERT Engine** – Advanced engine controls maximizes power and efficiency.
- **Economy Mode** – Featuring On Demand Throttle, Economy Mode optimizes power for maximum fuel savings with minimal impact on production.
- **Engine Idle Shutdown** – Automatic engine and electrical system shutdown conserves fuel.
- **Lock up Torque Converter** – Transfers more power to the ground and optimizes fuel efficiency in all applications.

Machine configuration, operator technique, and job site layout can impact fuel consumption.

- **Machine Configuration** – Select the correct work tool and tire type based on machine application. Ensure proper inflation pressures. Utilize the Economy Mode setting for maximum efficiency.
- **Job Site Layout** – Spot loading targets in the right position. Avoid traveling more than 1.5 tire revolutions during truck loading cycles. Reduce transport distance for load and carry cycles by optimizing job site layout.
- **Loading Bucket** – Load in first gear. Raise and tilt bucket quickly and do not use a “pumping” motion. Avoid lift lever detent and use impeller clutch.
- **Loading Truck or Hopper** – Do not raise the work tool any higher than necessary. Keep engine rpm low and unload in controlled manner.
- **Idle** – Set the parking brake to engage Engine Idle Management System.

# 990K Wheel Loader Specifications

## Engine

Engine Model	Cat C27 ACERT	
Emissions	Tier 4 Final OR Tier 2 Equivalent	
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%	

## Operating Specifications

Operating Weight	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 m <sup>3</sup> - 10.0 m <sup>3</sup>	11.25 yd <sup>3</sup> - 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	
Forward 1	7.3 km/h	4.5 mph
Forward 2	13.3 km/h	8.3 mph
Forward 3	22.9 km/h	14.2 mph
Reverse 1	7.9 km/h	4.9 mph
Reverse 2	14.7 km/h	9.1 mph
Reverse 3	24.9 km/h	15.5 mph
Direct Drive Forward 1	Lock-up disabled	
Direct Drive Forward 2	13.7 km/h	8.5 mph
Direct Drive Forward 3	24.5 km/h	15.2 mph
Direct Drive Reverse 1	8.7 km/h	5.4 mph
Direct Drive Reverse 2	15.4 km/h	9.6 mph
Direct Drive Reverse 3	26.4 km/h	16.4 mph

• 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	
Maximum Flow at 1,800 rpm	817 L/min	216 gal/min
Relief Valve Setting – Lift/Tilt	33 000 kPa	4,786 psi
Cylinders, Double Acting: Lift, Bore and Stroke	235 mm × 1287 mm	9.3 in × 50.7 in
Cylinders, Double Acting: Tilt, Bore and Stroke	292.1 mm × 820 mm	11.5 in × 32.3 in
Pilot System	Open loop and pressure reducing	
Maximum Flow at 1,800 rpm	84 L/min	22.2 gal/min
Relief Valve Setting	3500 kPa	507 psi

# 990K Wheel Loader Specifications

## Hydraulic Cycle Time

Rack Back	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 System – Circuit	Pilot, load sensing	
Steering System – Pump	Piston, variable displacement	
Maximum Flow @ 1,400 rpm	358 L/min	94.5 gal/min
Relief Valve Setting – Steering	32 000 kPa	4,641 psi
Total Steering Angle	70°	

## Service Refill Capacities

Fuel Tank	1114 L	294.3 gal
Cooling System	208 L	54.9 gal
Engine Crankcase	75.7 L	20.0 gal
Transmission	110 L	29.1 gal
Differentials and Final Drives – Front	271 L	71.6 gal
Differentials and Final Drives – Rear	261 L	68.9 gal
Hydraulic System Factory Fill	795 L	210.0 gal
Hydraulic Tank (Implement and Hydraulic Fan)	261 L	68.9 gal
Hydraulic Tank (Steering and Braking)	132 L	34.9 gal

- All nonroad U.S. EPA Tier 4, European Union (EU) Stage IIIB and IV, and Japan 2011 (Tier 4 Interim) and Japan 2014 (Tier 4 Final) 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/cdalfiles/3244668/7/SEBU6250-19.pdf>.

## Axles

Front	Fixed
Rear	Trunnion
Oscillation Angle	8.5°

## Brakes

Brakes	SAE J1473 OCT90, ISO 3450:1992
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## Sound Performance

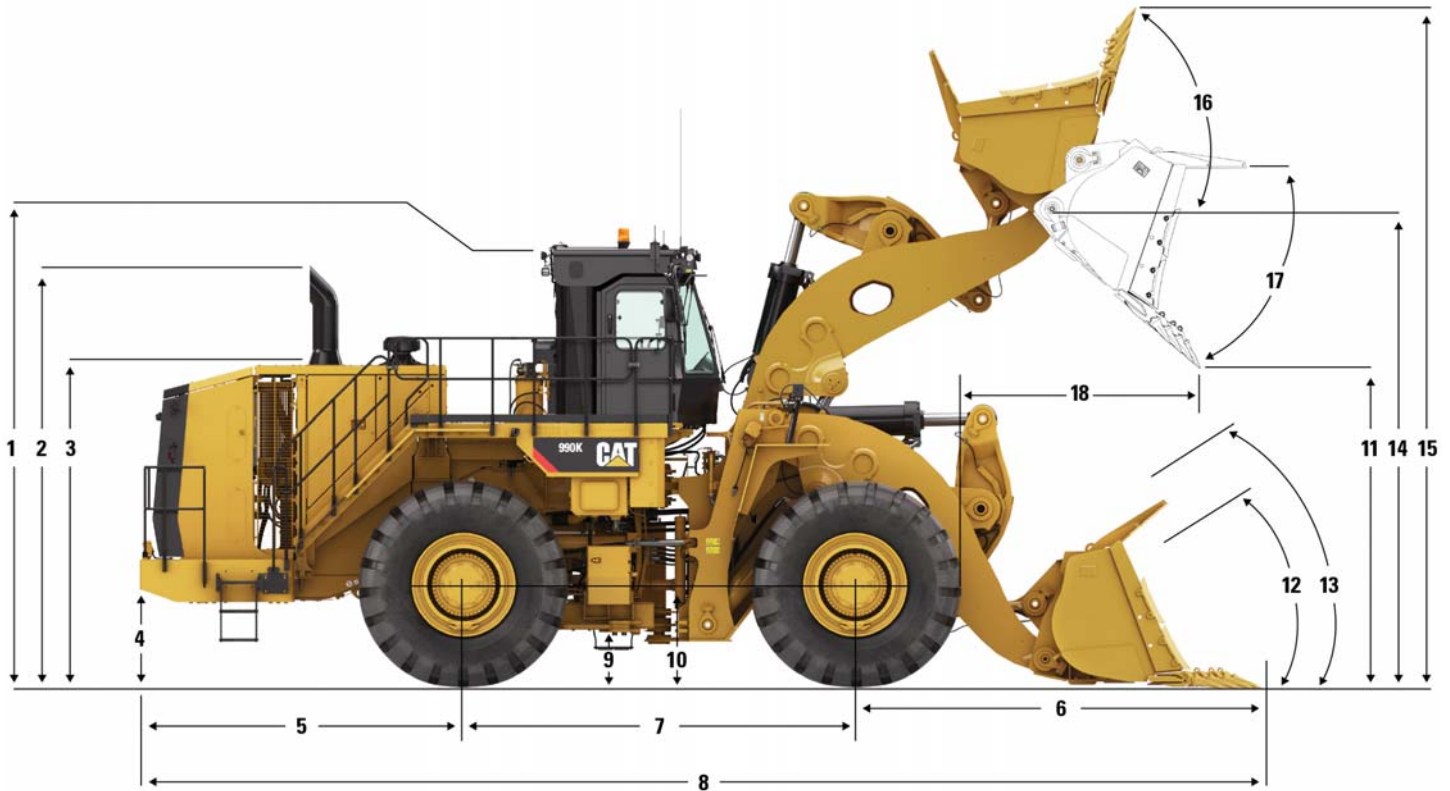
	Standard	Suppression
Operator Sound Level (ISO 6396:2008)	69 dB(A)	69 dB(A)
Machine Sound Level (ISO 6395:2008)	115 dB(A)	113 dB(A)

- The operator sound pressure level is 69 dB(A), measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. 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.
- The machine sound power level is 115 dB(A), measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.
- The machine sound power level is 113 dB(A), measured according to the test procedures and conditions specified in ISO 6395:2008 for the sound suppressed machine configuration. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.

# 990K Wheel Loader Specifications

## Dimensions

All dimensions are approximate.



	Standard Lift		High Lift	
1 Ground to Top of ROPS	5240 mm	17.2 ft	5240 mm	17.2 ft
2 Ground to Top of Exhaust Stacks	5049 mm	16.6 ft	5049 mm	16.6 ft
3 Ground to Top of Hood	3862 mm	12.7 ft	3862 mm	12.7 ft
4 Ground to Bumper Clearance	1079 mm	3.5 ft	1079 mm	3.5 ft
5 Rear Axle Centerline to Bumper	3795 mm	12.5 ft	3795 mm	12.5 ft
6 Front Axle Centerline to Bucket Tip	4677 mm	15.3 ft	5416 mm	17.8 ft
7 Wheelbase	4600 mm	15.1 ft	4600 mm	15.1 ft
8 Maximum Overall Length	13 072 mm	42.9 ft	13 811 mm	45.3 ft
9 Ground to Lower Hitch Clearance	596 mm	2.0 ft	596 mm	2.0 ft
10 Ground to Center of Front Axle	1290 mm	4.2 ft	1290 mm	4.2 ft
11 Clearance at Maximum Lift	4060 mm	13.3 ft	4521 mm	14.8 ft
12 Rack Back Angle at Ground Level	40.4 degrees		39.9 degrees	
13 Rack Back Angle at Carry	48.8 degrees		49.3 degrees	
14 B-Pin Height at Maximum Lift	6009 mm	19.7 ft	6470 mm	21.2 ft
15 Maximum Overall Height, Bucket Raised	8293 mm	27.2 ft	8754 mm	28.7 ft
16 Rack Angle at Maximum Lift	63.7 degrees		60.6 degrees	
17 Dump Angle at Maximum Lift	45 degrees		51 degrees	
18 Reach at Maximum Lift	2194 mm	7.2 ft	2583 mm	8.5 ft



## Bucket Capacity/Material Density Selection Guide

Standard Lift/High Lift					
Material Density				Bucket Volume	
kg/m <sup>3</sup>	lb/yd <sup>3</sup>	tonnes/m <sup>3</sup>	tons/yd <sup>3</sup>	m <sup>3</sup>	yd <sup>3</sup>
1590-1749	2,692-2,962	1.59-1.75	1.35-1.48	10.0	13.0
1728-1901	2,917-3,208	1.73-1.90	1.46-1.60	9.2	12.0
1849-2034	3,111-3,422	1.85-2.03	1.56-1.71	8.6	11.25

# 990K Wheel Loader Specifications

## Operating Specifications – Standard Lift

For machines equipped with Bridgestone 45/65R39 VSDL One Star 6.7 bar (97 psi) pressure.

		990K Std Lift Tires: 45/65R39 VSDL, SLR: 1203 mm			
Bucket Type		Rock	Rock	Rock	HD Rock
Ground Engaging Tool		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Cutting Edge Type		Spade	Spade	Spade	Spade
Bucket Part Number (Group Level)		361-6110	361-6120	361-6140	361-6150
Struck Capacity (ISO)	m <sup>3</sup>	7.0	7.5	8.0	7.0
	yd <sup>3</sup>	9.1	9.9	10.5	9.1
Heaped Capacity (ISO)	m <sup>3</sup>	8.5	9.0	10.0	8.5
	yd <sup>3</sup>	11.1	11.8	13.0	11.1
Bucket Width – Overall	mm	4610	4610	4610	4610
	ft	15.1	15.1	15.1	15.1
Clearance at 45° Dump (Tooth Tip)	mm	4060	4012	3949	4031
	ft	13.3	13.2	13.0	13.2
Clearance at 45° Dump (Edge)	mm	4234	4186	4123	4234
	ft	13.9	13.7	13.5	13.9
Reach at 45° Dump (Tooth Tip)	mm	2194	2241	2305	2188
	ft	7.2	7.4	7.6	7.2
Reach at 45° Dump (Edge)	mm	2027	2074	2138	2027
	ft	6.6	6.8	7.0	6.6
Horizontal Arm and Level Bucket Reach (Tooth)	mm	4331	4398	4488	4347
	ft	14.2	14.4	14.7	14.3
Digging Depth (Segment)	mm	113	113	113	113
	in	4.5	4.5	4.5	4.5
Overall Length – Bucket Level Ground	mm	13 072	13 139	13 229	13 088
	ft	42.9	43.1	43.4	42.9
Overall Height	mm	8293	8359	8359	8293
	ft	27.2	27.4	27.4	27.2
Loader Clearance Circle (SAE carry with teeth)	mm	21 165	21 203	21 253	20 967
	ft	69.4	69.6	69.7	68.8
Rack Back Angle at SAE Carry	degrees	48.7	48.7	48.7	48.7
Full Dump at Maximum Lift	degrees	-45.0	-45.0	-45.0	-45.0
Tipping Load – Straight	kg	49 513	49 233	49 280	47 872
	lb	109,158	108,540	108,644	105,540
Tipping Load – Straight (with Tire Squash)	kg	46 323	46 024	46 025	44 708
	lb	102,125	101,466	101,468	98,564
Tipping Load at Operating Weight (Articulated 35°)	kg	44 180	43 908	43 934	42 537
	lb	97,401	96,801	96,858	93,778
Tipping Load at Operating Weight (Articulated 35°) (Tire Squash)	kg	39 900	39 606	39 578	38 289
	lb	87,964	87,316	87,255	84,413
Breakout Force (SAE Rated)	kN	589.9	569.8	545.9	584.1
	lbf	132,617	128,103	122,733	131,304
Operating Weight	kg	80 974	81 147	81 299	82 511
	lb	178,517	178,899	179,233	181,906
Weight Distribution at SAE Carry (Unloaded)					
Front	kg	44 827	45 142	45 396	47 414
	lb	98,827	99,522	100,080	104,529
Rear	kg	36 147	36 005	35 903	35 097
	lb	79,690	79,377	79,153	77,377
Loaded Machine Weight	kg	96 849	97 022	97 174	98 386
	lb	213,515	213,897	214,232	216,904
Weight Distribution at SAE Carry (Loaded)					
Front	kg	70 939	71 303	71 536	73 510
	lb	156,395	157,197	157,710	162,062
Rear	kg	25 909	25 719	25 638	24 876
	lb	57,120	56,700	56,521	54,842

# 990K Wheel Loader Specifications

## Operating Specifications – High Lift

For machines equipped with Bridgestone 45/65R39 VSDL One Star 6.7 bar (97 psi) pressure.

		990K High Lift Tires: 45/65R39 VSDL, SLR: 1203 mm			
Bucket Type		Rock	Rock	Rock	HD Rock
Ground Engaging Tool		Teeth & Segments	Teeth & Segments	Teeth & Segments	Teeth & Segments
Cutting Edge Type		Spade	Spade	Spade	Spade
Bucket Part Number (Group Level)		361-6110	361-6120	361-6140	361-6150
Struck Capacity (ISO)	m <sup>3</sup>	7.0	7.5	8.0	7.0
	yd <sup>3</sup>	9.1	9.9	10.5	9.1
Heaped Capacity (ISO)	m <sup>3</sup>	8.5	9.0	10.0	8.5
	yd <sup>3</sup>	11.1	11.8	13.0	11.1
Bucket Width – Overall	mm	4610	4610	4610	4610
	ft	15.1	15.1	15.1	15.1
Clearance at 45° Dump (Tooth Tip)	mm	4521	4473	4410	4492
	ft	14.8	14.7	14.5	14.7
Clearance at 45° Dump (Edge)	mm	4695	4647	4584	4695
	ft	15.4	15.2	15.0	15.4
Reach at 45° Dump (Tooth Tip)	mm	2583	2630	2694	2578
	ft	8.5	8.6	8.8	8.5
Reach at 45° Dump (Edge)	mm	2416	2463	2527	2416
	ft	7.9	8.1	8.3	7.9
Horizontal Arm and Level Bucket Reach (Tooth)	mm	4931	4998	5088	4947
	ft	16.2	16.4	16.7	16.2
Digging Depth (Segment)	mm	155	155	155	155
	in	6.1	6.1	6.1	6.1
Overall Length – Bucket Level Ground	mm	13 811	13 878	13 968	13 827
	ft	45.3	45.5	45.8	45.4
Overall Height	mm	8754	8820	8820	8754
	ft	28.7	28.9	28.9	28.7
Loader Clearance Circle (SAE carry with teeth)	mm	21 848	21 890	21 947	21 622
	ft	71.7	71.8	72.0	70.9
Rack Back Angle at SAE Carry	degrees	49.2	49.2	49.2	49.2
Full Dump at Maximum Lift	degrees	-51.1	-51.1	-51.1	-51.1
Tipping Load – Straight	kg	45 117	44 834	44 814	43 510
	lb	99,465	98,842	98,798	95,924
Tipping Load – Straight (with Tire Squash)	kg	42 538	42 243	42 192	40 951
	lb	93,780	93,130	93,017	90,282
Tipping Load at Operating Weight (Articulated 35°)	kg	39 904	39 631	39 596	38 295
	lb	87,974	87,372	87,294	84,426
Tipping Load at Operating Weight (Articulated 35°) (Tire Squash)	kg	36 208	35 919	35 845	34 624
	lb	79,825	79,188	79,025	76,333
Breakout Force (SAE Rated)	kN	555.9	536.9	514.3	550.1
	lbf	124,982	120,704	115,628	123,669
Operating Weight	kg	85 599	85 772	85 924	87 136
	lb	188,713	189,094	189,429	192,102
Weight Distribution at SAE Carry (Unloaded)					
Front	kg	46 516	46 860	47 139	49 363
	lb	102,551	103,309	103,923	108,826
Rear	kg	39 082	38 912	38 785	37 773
	lb	86,162	85,786	85,506	83,275
Loaded Machine Weight	kg	101 474	101 647	101 799	103 011
	lb	223,711	224,093	224,427	227,100
Weight Distribution at SAE Carry (Loaded)					
Front	kg	75 305	75 696	75 953	78 137
	lb	166,019	166,882	167,449	172,263
Rear	kg	26 169	25 950	25 845	24 874
	lb	57,692	57,211	56,979	54,837

## Standard Equipment

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

### OPERATOR ENVIRONMENT

- Air conditioner and heater with automatic temperature control
- Cab, sound-suppressed pressurized, protective structure (ROPS/FOPS), radio ready for (entertainment) includes antenna, speakers and converter (12V, 10-15 amp)
- 12V power port for mobile phone or laptop connection
- Camera, rear vision
- Cigar lighter and ashtray
- Coat hook
- Electro-hydraulic tilt and lift controls (seat mounted)
- Flip-up armrest
- Heater and defroster
- Horn, electric
- Implement hydraulic lockout
- Instrumentation, gauges:
  - Engine coolant temperature
  - Fuel level
  - Ground speed
  - Gear
  - Hydraulic oil temperature
  - Speedometer/tachometer
  - Torque converter temperature
- Instrumentation, warning indicators:
  - Action alert system, three category
  - Automatic transmission model enable status
  - Brake malfunction
  - Bucket float status
  - Delayed engine shutdown status
  - Engine idle shutdown status
  - Engine malfunction
  - Fuel economy mode enable status
  - Hydraulic lockout
  - Lockup clutch enable status
  - Low fuel level
  - Parking brake status
  - Rimpull control enable status
  - Seatbelt warning
  - Secondary steering (if equipped)
  - Throttle lock status
  - Transmission gear

- Keypad, control with indicator lights:
  - Auto trans mode speed range
  - Auto/manual transmission mode
  - Fuel economy mode
  - Implement kickout
  - Lockup clutch
  - Reduced rimpull
  - Throttle lock
- Light, dome (cab)
- Lunchbox and beverage holders
- Mirrors, rearview (externally mounted)
- Seat, Cat comfort (cloth) air suspension
- Seat belt, retractable, 76 mm (3 in) wide
- STIC control system with steering lock
- Tinted glass
- Trainer seat with lap belt
- Vital Information Management System (VIMS) 3G with graphical information display: external data port, customizable operator profiles, cycle timer, and integral Cat Production Measurement
  - Wet-arm wipers/washers (front, rear and corner) intermittent front wiper

### POWER TRAIN

- Brakes, full hydraulic, enclosed, oil-disc
- Axle-shaft oil-disc service brake
- Electro hydraulic parking brake
- Case drain filters
- Cat clean emission module (Tier 4 only)
- Demand fan
- Engine Cat C27 ACERT
- Fuel priming pump (electric)
- Ground level engine shutoff, bumper
- Mufflers (under hood) (Tier 2 equivalent only)
- Precleaner, engine air intake
- Radiator, Aluminum Modular (AMR)
- Separated cooling system
- Starting aid, (ether) manual override
- Throttle Lock
- Torque Converter, Impeller Clutch with lock-up clutch feature and rimpull control system
- Transmission, 534 mm (21 in) planetary power shift (electronic) (3F/3R)

### ELECTRICAL

- Alarm, back-up
- Alternator, 150 amp
- Batteries, maintenance free (2 – 1,400 CCA)
- Converter, 10/15 amp, 24V to 12V
- Deutsch component connectors
- Electrical system, 24V
- Electronic transmission control
- Lighting system, halogen (front and rear) lighting, access stairway, engine compartment
- Starter, electric
- Starter lockout in bumper
- Starting receptacle for emergency start
- Transmission lockout in bumper

### OTHER

- Automatic bucket tilt/lift kickouts electronically adjustable from cab
- Axle temperature sensor
- Battery disconnect and jump start receptacle, bumper
- Coupling, Caterpillar O-ring face seals
- Economy mode with on demand throttle
- Emergency platform egress
- Engine, crankcase, 500 hour interval with CH4
- Engine idle management features:
  - Auto idle kickdown
  - Delayed engine shutdown
  - Engine idle shutdown
- Fenders, steel (front)
- Guards, crankcase and power train
- Grouped/labeled lube points
- Hitch, drawbar with pin
- Hoses, Cat XT™
- Oil sampling valves
- Positive flow control hydraulic system
- Product Link
- Sight Gauges: hydraulic tanks, steering/fan and implement/brake, and transmission
- Stairway, left and right rear access
- Steering, load sensing
- Toe kicks
- Vandalism protection caplocks
- Venturi stack
- Premixed 50% concentration of extended life coolant with freeze protection to –34° C (–29° F)

## Optional Equipment

With approximate changes in operating weights. Optional equipment may vary. Consult your Cat dealer for specifics.

### POWER TRAIN

- -50° C (-58° F) antifreeze
- Engine oil change system, high speed, Wiggins
- Engine block heater 120V or 240V
- High ambient cooling – software

### OPERATOR ENVIRONMENT

- Cab precleaner
- AM/FM/CD/MP3 radio
- Satellite Sirius radio with Bluetooth
- LED warning strobe
- CB radio ready
- Window sun shade

### MISCELLANEOUS ATTACHMENTS

- Front and rear roading fenders
- Fast fill fuel system (Shaw-Aero)
- Axle oscillation stop
- Heavy duty cab mounts

# 990K Mandatory Attachments

## Mandatory Attachments

Select one from each group. Mandatory and optional equipment may vary. Consult your Cat dealer for specifics.

### LINKAGE

- Standard
- High Lift
  
- Autolube
- Manual grease pins

### ELECTRICAL

- No Product Link
- Product Link (Satellite)
- Product Link (Cellular)

### STEERING

- Standard steering
- Secondary steering

### POWER TRAIN

- Axle oil cooler
- Standard axles
  
- Standard fuel lines
- Heated fuel lines
  
- Standard axle
- No spin axle
- Extreme temperature axle
  
- No engine brake
- Engine brake

### LIGHTING

- Standard lighting
- HID lighting
- LED lighting

### OPERATOR ENVIRONMENT

- No suppression arrangement
- Sound suppression
  
- Standard seat
- Heated seat
  
- Standard seat belt
- Seat belt minder
  
- Standard cab glass
- Rubber mounted cab glass
  
- Standard cab air cleaner
- RESPA cab air cleaner
  
- Standard mirror
- Heated mirror
  
- Vision Display
- Cat Detect (Object Detection)

### HYDRAULICS

- Ride control
- No ride control
  
- Standard hydraulic oil
- Fire resistant (EcoSafe) hydraulic oil
- Cold weather hydraulic oil

### FUEL SYSTEM

- Conventional fuel arrangement
- Cold weather starting





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AEHQ7230-03 (06-2015)  
Replaces AEHQ7230-02

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