<table>
<thead>
<tr>
<th>Engine</th>
<th>Buckets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Model</td>
<td>Bucket Capacities</td>
</tr>
<tr>
<td>Cat® C27 ACERT™</td>
<td>7.4-14.9 m³</td>
</tr>
<tr>
<td>Emissions</td>
<td>9.7-19.5 yd³</td>
</tr>
<tr>
<td>U.S. EPA Tier 4 Final OR</td>
<td>Operating Specifications</td>
</tr>
<tr>
<td>Tier 2 Equivalent</td>
<td>Rated Payload</td>
</tr>
<tr>
<td>Gross (ISO 14396)</td>
<td>15.9 tonnes</td>
</tr>
<tr>
<td>561 kW</td>
<td>Operating Weight</td>
</tr>
<tr>
<td>Net Power – SAE J1349</td>
<td>80 974 kg</td>
</tr>
<tr>
<td>752 hp</td>
<td>178,517 lb</td>
</tr>
<tr>
<td>521 kW</td>
<td>17.5 tons</td>
</tr>
<tr>
<td>699 hp</td>
<td></td>
</tr>
</tbody>
</table>
Lower your cost per ton with industry leading performance.

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Power Train ..........................................................4
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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.
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.
Efficient loading/hauling system starts with a perfect match.

<table>
<thead>
<tr>
<th></th>
<th>773</th>
<th>775</th>
<th>777</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Lift</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>High Lift</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Model</td>
<td>Cat C27 ACERT</td>
</tr>
<tr>
<td>Emissions</td>
<td>Tier 4 Final OR Tier 2 Equivalent</td>
</tr>
<tr>
<td>Rated Speed</td>
<td>1,800 rpm</td>
</tr>
<tr>
<td>Gross (ISO 14396)</td>
<td>561 kW 752 hp</td>
</tr>
<tr>
<td>Gross (SAE J1995)</td>
<td>571 kW 766 hp</td>
</tr>
<tr>
<td>Net Power – SAE J1349 (Standard Ambient)</td>
<td>521 kW 699 hp</td>
</tr>
<tr>
<td>Net Power – SAE J1349 (High Ambient)</td>
<td>483 kW 648 hp</td>
</tr>
<tr>
<td>Bore</td>
<td>137.2 mm 5.4 in</td>
</tr>
<tr>
<td>Stroke</td>
<td>152.4 mm 6.0 in</td>
</tr>
<tr>
<td>Displacement</td>
<td>27.03 L 1,649.5 in³</td>
</tr>
<tr>
<td>Peak Torque @ 1,200 rpm</td>
<td>3557 N·m 2,624 lbf-ft</td>
</tr>
<tr>
<td>Torque Rise</td>
<td>18%</td>
</tr>
</tbody>
</table>

#### Transmission

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission Type</td>
<td>Cat planetary power shift</td>
</tr>
<tr>
<td>Forward 1</td>
<td>7.3 km/h 4.5 mph</td>
</tr>
<tr>
<td>Forward 2</td>
<td>13.3 km/h 8.3 mph</td>
</tr>
<tr>
<td>Forward 3</td>
<td>22.9 km/h 14.2 mph</td>
</tr>
<tr>
<td>Reverse 1</td>
<td>7.9 km/h 4.9 mph</td>
</tr>
<tr>
<td>Reverse 2</td>
<td>14.7 km/h 9.1 mph</td>
</tr>
<tr>
<td>Reverse 3</td>
<td>24.9 km/h 15.5 mph</td>
</tr>
<tr>
<td>Direct Drive Forward 1</td>
<td>Lock-up disabled</td>
</tr>
<tr>
<td>Direct Drive Forward 2</td>
<td></td>
</tr>
<tr>
<td>Direct Drive Forward 3</td>
<td></td>
</tr>
<tr>
<td>Direct Drive Reverse 1</td>
<td>8.7 km/h 5.4 mph</td>
</tr>
<tr>
<td>Direct Drive Reverse 2</td>
<td>15.4 km/h 9.6 mph</td>
</tr>
<tr>
<td>Direct Drive Reverse 3</td>
<td>26.4 km/h 16.4 mph</td>
</tr>
</tbody>
</table>

### Operating Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Weight</td>
<td>80 974 kg 178,517 lb</td>
</tr>
<tr>
<td>Rated Payload – Standard</td>
<td>15.9 tonnes 17.5 tons</td>
</tr>
<tr>
<td>Rated Payload – High Lift</td>
<td>15.9 tonnes 17.5 tons</td>
</tr>
<tr>
<td>Bucket Capacity Range</td>
<td>8.6 m³ 11.25 yd³ 10.0 m³ 13.0 yd³</td>
</tr>
<tr>
<td>Cat Truck Match – Standard</td>
<td>773-775</td>
</tr>
<tr>
<td>Cat Truck Match – High Lift</td>
<td>775-777</td>
</tr>
</tbody>
</table>

### Hydraulic System – Lift/Tilt

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lift/Tilt System – Circuit</td>
<td>Positive flow control</td>
</tr>
<tr>
<td>Lift/Tilt System</td>
<td>Variable displacement piston</td>
</tr>
<tr>
<td>Maximum Flow at 1,800 rpm</td>
<td>817 L/min 216 gal/min</td>
</tr>
<tr>
<td>Relief Valve Setting – Lift/Tilt</td>
<td>33 000 kPa 4,786 psi</td>
</tr>
<tr>
<td>Cylinders, Double Acting: Lift, Bore and Stroke</td>
<td>235 mm × 9.3 in × 1287 mm 50.7 in</td>
</tr>
<tr>
<td>Cylinders, Double Acting: Tilt, Bore and Stroke</td>
<td>292.1 mm × 11.5 in × 820 mm 32.3 in</td>
</tr>
<tr>
<td>Pilot System</td>
<td>Open loop and pressure reducing</td>
</tr>
<tr>
<td>Maximum Flow at 1,800 rpm</td>
<td>84 L/min 22.2 gal/min</td>
</tr>
<tr>
<td>Relief Valve Setting</td>
<td>3500 kPa 507 psi</td>
</tr>
</tbody>
</table>
### Hydraulic Cycle Time

<table>
<thead>
<tr>
<th>Action</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack Back</td>
<td>4.3 Seconds</td>
</tr>
<tr>
<td>Raise</td>
<td>8.2 Seconds</td>
</tr>
<tr>
<td>Dump</td>
<td>2.9 Seconds</td>
</tr>
<tr>
<td>Lower</td>
<td>3.7 Seconds</td>
</tr>
<tr>
<td>Lower Float Down</td>
<td>3.6 Seconds</td>
</tr>
<tr>
<td><strong>Total Hydraulic Cycle Time</strong> (empty bucket)</td>
<td><strong>13.8 Seconds</strong></td>
</tr>
</tbody>
</table>

### Hydraulic System – Steering

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Maximum Flow @ 1,400 rpm</th>
<th>Relief Valve Setting</th>
<th>Total Steering Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering System – Circuit</td>
<td>Pilot, load sensing</td>
<td>358 L/min 94.5 gal/min</td>
<td>32 000 kPa 4,641 psi</td>
<td>70°</td>
</tr>
<tr>
<td>Steering System – Pump</td>
<td>Piston, variable displacement</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Service Refill Capacities

<table>
<thead>
<tr>
<th>Component</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Tank</td>
<td>1114 L 294.3 gal</td>
</tr>
<tr>
<td>Cooling System</td>
<td>208 L 54.9 gal</td>
</tr>
<tr>
<td>Engine Crankcase</td>
<td>75.7 L 20.0 gal</td>
</tr>
<tr>
<td>Transmission</td>
<td>110 L 29.1 gal</td>
</tr>
<tr>
<td>Differentials and Final Drives – Front</td>
<td>271 L 71.6 gal</td>
</tr>
<tr>
<td>Differentials and Final Drives – Rear</td>
<td>261 L 68.9 gal</td>
</tr>
<tr>
<td>Hydraulic System Factory Fill</td>
<td>795 L 210.0 gal</td>
</tr>
<tr>
<td>Hydraulic Tank (Implement and Hydraulic Fan)</td>
<td>261 L 68.9 gal</td>
</tr>
<tr>
<td>Hydraulic Tank (Steering and Braking)</td>
<td>132 L 34.9 gal</td>
</tr>
</tbody>
</table>

### Axles

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>Fixed</td>
</tr>
<tr>
<td>Rear</td>
<td>Trunnion</td>
</tr>
<tr>
<td>Oscillation Angle</td>
<td>8.5°</td>
</tr>
</tbody>
</table>

### Brakes

<table>
<thead>
<tr>
<th>Component</th>
<th>Standard</th>
<th>Suppression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brakes</td>
<td>SAE J1473 OCT90, ISO 3450:1992</td>
<td></td>
</tr>
</tbody>
</table>

### Sound Performance

<table>
<thead>
<tr>
<th>Component</th>
<th>Standard</th>
<th>Suppression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator Sound Level</td>
<td>69 dB(A)</td>
<td>69 dB(A)</td>
</tr>
<tr>
<td>Machine Sound Level</td>
<td>115 dB(A)</td>
<td>113 dB(A)</td>
</tr>
</tbody>
</table>

- 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.

* 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-ULSTM or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specification are required.
## Dimensions

All dimensions are approximate.

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

### Standard Lift/High Lift

<table>
<thead>
<tr>
<th>Material Density</th>
<th>Bucket Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>kg/m³</td>
<td>lb/yd³</td>
</tr>
<tr>
<td>1590-1749</td>
<td>2,692-2,962</td>
</tr>
<tr>
<td>1728-1901</td>
<td>2,917-3,208</td>
</tr>
<tr>
<td>1849-2034</td>
<td>3,111-3,422</td>
</tr>
</tbody>
</table>
### 990K Wheel Loader Specifications

#### Operating Specifications – Standard Lift

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

<table>
<thead>
<tr>
<th>Bucket Type</th>
<th>990K Std Lift Tires: 45/65R39 VSDL, SLR: 1203 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Engaging Tool</td>
<td>Rock</td>
</tr>
<tr>
<td>Rock</td>
<td>Teeth &amp; Segments</td>
</tr>
<tr>
<td>Rock</td>
<td>Spade</td>
</tr>
<tr>
<td>Rock</td>
<td>361-6110</td>
</tr>
</tbody>
</table>

#### Cutting Edge Type

| Struck Capacity (ISO) | m³ | 7.0 | 7.5 | 8.0 | 7.0 |
| Heaped Capacity (ISO) | m³ | 8.5 | 9.0 | 10.0 | 8.5 |
| Bucket Width – Overall | mm | 4610 | 4610 | 4610 | 4610 |
| Clearance at 45° Dump (Tooth Tip) | mm | 4060 | 4012 | 3949 | 4031 |
| Clearance at 45° Dump (Edge) | mm | 4234 | 4186 | 4123 | 4234 |
| Reach at 45° Dump (Tooth Tip) | mm | 2194 | 2241 | 2305 | 2188 |
| Reach at 45° Dump (Edge) | mm | 2027 | 2074 | 2138 | 2072 |
| Horizontal Arm and Level Bucket Reach (Tooth) | mm | 4331 | 4398 | 4488 | 4347 |
| Digging Depth (Segment) | mm | 113 | 113 | 113 | 113 |
| Overall Length – Bucket Level Ground | mm | 13,072 | 13,139 | 13,229 | 13,088 |
| Loader Clearance Circle (SAE carry with teeth) | mm | 8293 | 8399 | 8399 | 8293 |
| 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 |
| Tipping Load – Straight (with Tire Squash) | kg | 46,323 | 46,024 | 46,025 | 44,708 |
| Tipping Load at Operating Weight (Articulated 35°) | kg | 44,180 | 43,908 | 43,934 | 42,537 |
| Tipping Load at Operating Weight (Articulated 35°) (Tire Squash) | kg | 39,900 | 39,606 | 39,578 | 38,289 |
| Breakout Force (SAE Rated) | kN | 589.9 | 569.8 | 545.9 | 584.1 |
| Operating Weight | kg | 80,974 | 81,147 | 81,299 | 82,511 |
| Weight Distribution at SAE Carry (Unloaded) | kg | 70,939 | 71,303 | 71,536 | 73,510 |
| Weight Distribution at SAE Carry (Loaded) | kg | 25,909 | 25,719 | 25,638 | 24,876 |
## Operating Specifications – High Lift

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

<table>
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<th>990K High Lift Tires: 45/65R39 VSDL, SLR: 1203 mm</th>
</tr>
</thead>
<tbody>
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<td>Ground Engaging Tool</td>
<td>Rock</td>
</tr>
<tr>
<td>Cutting Edge Type</td>
<td>Teeth &amp; Segments</td>
</tr>
<tr>
<td>Bucket Part Number (Group Level)</td>
<td>Spade</td>
</tr>
<tr>
<td>Struck Capacity (ISO)</td>
<td>m³</td>
</tr>
<tr>
<td>Heaped Capacity (ISO)</td>
<td>m³</td>
</tr>
<tr>
<td>Bucket Width – Overall</td>
<td>mm</td>
</tr>
<tr>
<td>Clearance at 45° Dump (Tooth Tip)</td>
<td>mm</td>
</tr>
<tr>
<td>Clearance at 45° Dump (Edge)</td>
<td>mm</td>
</tr>
<tr>
<td>Reach at 45° Dump (Tooth Tip)</td>
<td>mm</td>
</tr>
<tr>
<td>Reach at 45° Dump (Edge)</td>
<td>mm</td>
</tr>
<tr>
<td>Horizontal Arm and Level Bucket Reach (Tooth)</td>
<td>mm</td>
</tr>
<tr>
<td>Digging Depth (Segment)</td>
<td>mm</td>
</tr>
<tr>
<td>Overall Length – Bucket Level Ground</td>
<td>mm</td>
</tr>
<tr>
<td>Overall Height</td>
<td>mm</td>
</tr>
<tr>
<td>Loader Clearance Circle (SAE carry with teeth)</td>
<td>mm</td>
</tr>
<tr>
<td>Rack Back Angle at SAE Carry</td>
<td>degrees</td>
</tr>
<tr>
<td>Full Dump at Maximum Lift</td>
<td>degrees</td>
</tr>
<tr>
<td>Tipping Load – Straight</td>
<td>kg</td>
</tr>
<tr>
<td>Tipping Load – Straight (with Tire Squash)</td>
<td>kg</td>
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<tr>
<td>Tipping Load at Operating Weight (Articulated 35°)</td>
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</tr>
<tr>
<td>Tipping Load at Operating Weight (Articulated 35°) (Tire Squash)</td>
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</tr>
<tr>
<td>Breakout Force (SAE Rated)</td>
<td>kN</td>
</tr>
<tr>
<td>Operating Weight</td>
<td>kg</td>
</tr>
<tr>
<td>Weight Distribution at SAE Carry (Unloaded)</td>
<td>kg</td>
</tr>
<tr>
<td>Weight Distribution at SAE Carry (Loaded)</td>
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</tr>
</tbody>
</table>

### Rock Teeth & Segments
- **Spade**
  - **361-6110**: 7.0 m³ (9.1 ft³)
  - **361-6120**: 8.5 m³ (11.1 ft³)
  - **361-6140**: 8.5 m³ (11.1 ft³)
  - **361-6150**: 7.0 m³ (9.1 ft³)

### HD Rock Teeth & Segments
- **Spade**
  - **361-6110**: 7.0 m³ (9.1 ft³)
  - **361-6120**: 8.5 m³ (11.1 ft³)
  - **361-6140**: 8.5 m³ (11.1 ft³)
  - **361-6150**: 7.0 m³ (9.1 ft³)
990K Standard Equipment

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), 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
  - Brake 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)

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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

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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

**LITING**
- 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

**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