

993K

Wheel Loader



Engine

Engine Model	Cat® C32 ACERT™	
Gross Power – SAE J1995	782 kW	1,050 hp
Net Power – SAE J1349	708 kW	950 hp
• Cat® engine with ACERT™ Technology – U.S. EPA Tier 2, EU Stage II compliant		

Buckets

Bucket Capacities	12.2-23.7 m ³	16-31 yd ³
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Operating Specifications

Operating Weight	133 637 kg	294,800 lb
Breakout Force	709.2 kN	159,562 lb
Static Tipping Load, Full Turn	71 667 kg	158,026 lb

993K Wheel Loader

K-Series Wheel Loaders – the Next Generation in Performance

Reliability/Durability

- High rebuild hours and structure life increase 993K reliability
- Machine systems that ensure minimal downtime and maximum availability
- Easy serviceability minimizes daily checks with quick routine maintenance turnaround **pg. 4**

Owning and Operating Costs

- Machine features extend machine life and minimize downtime
- Centralized service center and ground level access minimizes serviceability
- Cat dealers offer total customer support unmatched in the industry **pg. 16**

Performance

- Lower your cost per ton by delivering maximum payloads
- Developed to optimize pass match with key size class trucks and job site requirements
- Improved system design gives the 993K optimal productivity. **pg. 6**

High Lift Arrangement Optional Attachment

- Optional High Lift Arrangement is the pass match loader for the Cat 785 Off-Highway Truck
- Standard Lift Arrangement is the pass match loader for the Cat 777 Off-Highway Truck **pg. 18**

Safety

- Key features to improve all around machine visibility
- Standard and optional features that allow operators to safely get on and off the machine
- Ergonomics improve operator environment. **pg. 8**

Keeping with the legacy of Caterpillar® quality and reliability, the wheel loader line has expanded with the new Cat 993K. The 993K offers greater productivity, improved safety and enhanced operator comfort for your toughest digging applications.



Serviceability

- Centralized service centers for convenient maintenance
 - Convenient access to service points
 - Monitoring systems and dealer support reduce unexpected downtime
- pg. 10**

Operator Comfort

- Best-in-class working environment for operator comfort and functionality
 - Ease of operation for improved operator efficiency
 - Ergonomic standards for long shift hours
- pg. 12**

Buckets and Work Tools

- Numerous bucket options meet your application needs
 - Ground Engaging Tools with Cat® K Series™ Tips increase machine productivity
- pg. 14**



Reliability/Durability

Reliability, durability, uptime of the machine – it's what you expect for your bottom line.



- Proven components and high hour rebuild and machine life standards provide proven reliability
- Machine systems working together in the harshest environments
- Diagnostic programs are available to monitor machine health and maintain uptime

MACHINE LIFE. The 993K is designed to meet customer rebuild requirements and a high hour structure life. This is accomplished through design emphasis put on key components:

Caterpillar Designed Components. Components used to build Cat Wheel Loaders are designed and manufactured to Caterpillar quality standards to ensure maximum performance even in extreme operating conditions.

• **Linkage.** The 993K features the field proven Z-bar linkage design with new maintenance-free sleeve bearing (SB) pins. A key benefit of the SB pins is when maintenance is required, customers can schedule change out of pins on a planned maintenance day. Design of the SB pins allows this planned downtime due to the fact it has low risk of consequential damage. In addition, significant growth in width for support of the Z-bar linkage further increases strength and durability.

• **Cat Planetary Power Shift Transmission.** The 993K has increased strength and reliability by utilizing a similar planetary gear group used in the Cat 994F.

• **Front and Rear Frames.** The front and rear frames are spread further apart for improved bearing life. A key differentiator from competitive machines is the box section rear frame and four plate loader tower. The box section absorbs torsional forces generated in a loading cycle, maintaining alignment for hitch pins and drive line. The four-plate loader tower resists shock and torsional loads maintaining hitch and loader linkage pin alignment.

• **Axle Shaft Service Brake.** Sharing similar components with the Cat D9R, this service brake provides improved retarding capabilities and better braking ability. Positive oil flow and brake oil cooling result in improved brake disc durability. Additionally, the 993K third gear run out stopping distance is greatly reduced.



• **Next Generation Modular Radiator (NGMR).** Utilizing 14 parallel flow system modular cores, the NGMR increases cooling performance by only drawing cooler ambient air through the radiator system.



PROVEN ENGINE TECHNOLOGY.

The 993K utilizes the Cat® C32 engine which fully meets U.S. EPA Tier 2/EU Stage II emissions requirements. This Mechanically Actuated Electronically Controlled Unit Injection (MEUI) diesel engine shares a common platform with the Cat 777F, 854K, 992K and D11.

DIAGNOSTIC PROGRAMS.

Monitoring product health is key to maintaining reliability of any equipment. Many programs are available on the 993K, both as standard and optional features, to help you track machine condition.

VIMS Monitoring System with Enhanced Display. Monitoring over 100 machine parameters, VIMS records these parameters for maintaining and optimizing the machine. VIMS features System Events and Data Events, giving notification from machine malfunction to changes in pre-programmed machine settings.



Product Link. Product Link is a state-of-the-art satellite technology based product that provides an information flow between machine on-board systems and the Caterpillar operations center. Multiple types of information can be collected and tracked – from machine location and service meter hours to health and productivity information.

Equipment Manager. With a subscription to Equipment Manager through the Cat Dealer StoreFront, the information collected through Product Link can be transmitted to a computer. With fast, easy-to-access machine information, you can optimize asset utilization, reduce security risks, improve maintenance management and implement before-failure repair strategies.

S-O-SSM Services. Keep minor repairs from becoming major ones and avoid complete failures. By regularly taking samples from the ports provided, your Cat dealer tracks wear of components and parts, oil performance and oil condition and uses that data to predict wear-related problems before they happen.

Performance

Delivery of performance is critical to your bottom line. When it comes to high productivity, the 993K is designed with just that thought in mind.

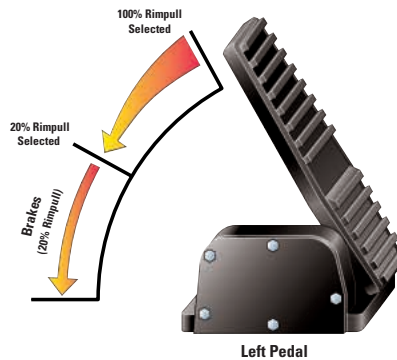
- Move more tons of material with the increased productivity of this 25 ton loader
- Improved system design gives the 993K optimum productivity
- Pass match the 993K with the right truck for improved job site efficiencies



MOVE MORE TONS. Lower your cost per ton by delivering maximum payload. This 25 ton rated loader can help your bottom line with increased productivity. This is accomplished through additional power, improved cycle time and continuously high bucket fill factors on every dig cycle.

OPTIMUM PRODUCTIVITY. The 993K has designed a number of key systems and features to achieve the maximum power for a machine of this size class. Increased breakout force, more rimpull coupled with fill factor and increased power gives the 993K optimum productivity.

Positive Flow Control (PFC). PFC ensures faster hydraulic implement response, giving the operator improved feel and control of the bucket. With PFC, customers see a decrease in cycle time.



Impeller Clutch Torque Converter (ICTC)/Rimpull Control System.

Mixing new with a current validated system, customers can maintain hydraulic balance while digging and loading by utilizing the ICTC/Rimpull Control System. The ICTC enables the operator to finely modulate rimpull for smooth machine operation.



Steering System. Load sensing steering reduces the demand on the hydraulic system when steering is not activated. By delivering only the power draw that is needed, engine power is reserved for productive work.

Double Reduction Final Drives.

The 993K final drives are built off the D11 design platform and tailored for wheel loader applications. The double reduction final drives enable the increase in rimpull. Additional benefits include significantly reducing power train stresses resulting in longer overall power train life, durability and ease of service.



Linkage Pins. The 993K features durable, service-free, oil filled and sealed-for-life Cat Sleeve Bearing (SB) pins. The SB pins eliminate the need for daily greasing of the front linkage and requires no routine maintenance for continued uptime.



Cat Planetary Power Shift

Transmission. The 993K planetary power shift transmission assists in the increased rimpull. This transmission is electronically controlled and features three forward and three reverse speeds.

Transmission features include:

- Integrated shifting/steering control with F/N/R rocker switch and upshift/downshift switches.
- Transmission clutch control for improved shift quality, component life and operator comfort.
- ICTC for improved rimpull control and transmission clutch durability.

Truck Pass Match. It is not always about working harder, but working smarter – optimize the wheel loader to the trucks. This is accomplished through even passes when loading and optimizing operation for efficiencies. The 993K was developed to optimize pass match with key trucks in this size class and job site requirements.



993K Pass Match	
777	4 Pass
785	6 Pass

Safety

People are the backbone of your business and keeping them safe and productive is the number one priority. At Caterpillar, we have designed the 993K with your most important asset in mind.



Working 24 Hours a Day. Any time of the day and in all types of weather, the 993K has a number of features to ensure safe visibility. Rear heated mirrors are available for quick defrost and good visibility in winter conditions. The optional High Intensity Discharge (HID) lights provide exceptional lighting for night work. Rotating warning beacons are also available as a safety feature.

ACCESS and EGRESS. Getting on and off the machine is one of the leading causes of injury on a jobsite. The new 993K has several standard and optional features that help to ensure your operators get safely on and off the machine.

- Good visibility for a safe work environment
- Get your operator safely on and off the 993K
- Daily and routine maintenance features allow your service technician to safely service the machine

IMPROVED VISIBILITY. Good visibility, whether it is an operator needing front viewing for positioning to a truck or side viewing for vehicles or people in the work area, is key to a safe work environment. With a 14 percent increase in cab space and a .6 m (2 ft) increase in cab height, the operator has one of the best viewing capabilities in the industry for this wheel loader class size. Additional standard visibility features that enhance safety include:

- Long life LED tail lights
- Articulated wiper/washer system with intermittent feature on front and rear windows



Optional Rear Vision Camera with In-Cab Monitor. An optional rear vision camera with 178 mm (7 in), in-cab, color display monitor is available to give a close view of behind the wheel loader.



Wider Platform Access Stairs. Both left and right stairways are standard and have increased in width to provide additional room, 600 mm (23.6 in), for operators and service technicians to access the cab and to perform platform maintenance procedures. Optional roading fenders are available to prevent mud and debris build up on the steps and rails.

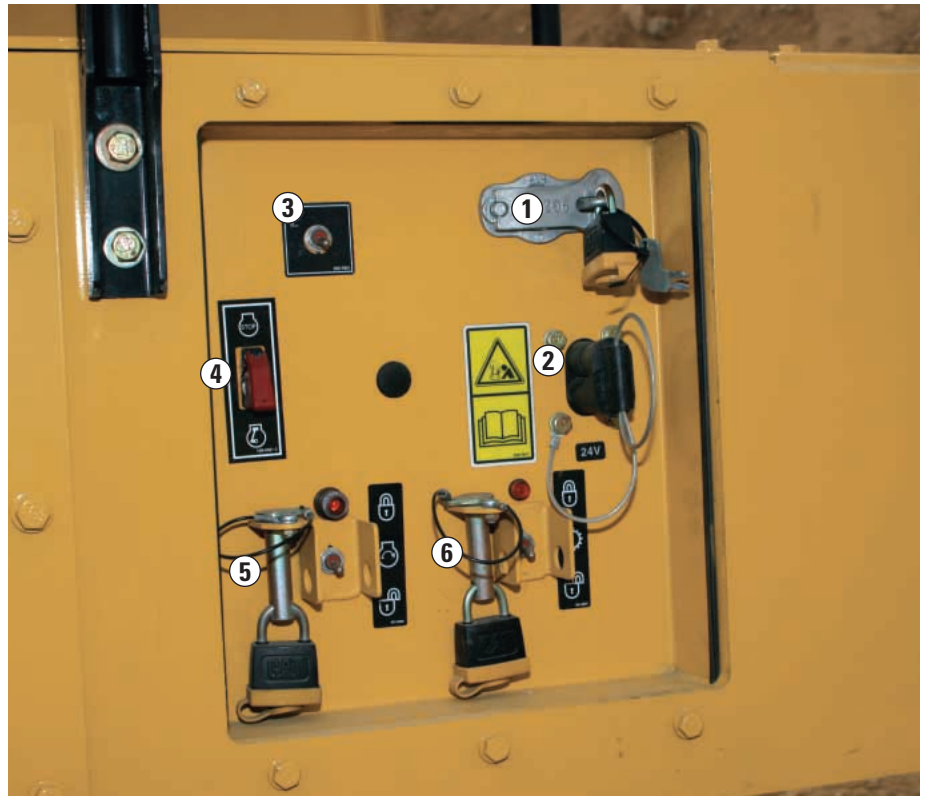


Rear Access Egress System (RAES)

Attachment. An optional manlift replaces the left hand ladder and lifts or lowers the operator or service technician, personal belongings and tools safely on and off the platform.

MAINTENANCE SAFETY. Daily and routine maintenance should not pose a safety hazard to your operator or service technician. With the 993K, design effort was taken to group service points with convenient access. With the standard service or optional deluxe service center, technicians can plan daily maintenance by checking fluid levels and machine parameters. This allows the technician to prep for required maintenance and take all material on the bumper platform at one time rather than make trips on and off the machine to get required maintenance components or fluids.

Bumper Service Center. Another key safety service point is the Bumper Service Center. A centralized service center located at ground level on the left hand, rear side of the 993K includes a lockable battery disconnect (1), auxiliary jump start receptacle (2), stairway light switch (3) and engine shutdown switch (4). This center also contains lockout switches allowing your service technician to perform routine maintenance while ensuring the machine stays static.



Starter Lockout Switch (5). Key to safety, another feature on the bumper service center is a starter lockout that stops the ability to start the machine, which is often needed during service procedures. The machine will still have electrical power, however, the engine cannot be started.

Transmission Lockout Switch (6). The transmission lockout switch does not allow the transmission to shift out of neutral, even if running. This feature is designed for service procedures that requires machines to be running but need the transmission disabled for added safety.

SAFETY IN OPERATOR ENVIRONMENT.

The operator and safety go hand-in-hand. Many features that enhance operator comfort also aid in keeping your operator safe from lowering noise levels to design features that lower vibration and repetitive motion. Key standard features that aid operator safety include low effort implement controls integrated with the seat for ease of adjustment by the operator, front windshield cleaning platform with handrails and a seat belted trainer's seat for convenient operator training on the job site. Additional safety features include a cab filtration system that removes dust and debris from the cab air. Optional for dusty applications is a cab pre-cleaner that reduces the amount of dust prior to reaching the cab filter.

SAFETY.CAT.COM™.

Serviceability

The 993K is designed to ensure minimal downtime through ground level access, grouped service points and attention to key serviceable areas on the machine, so the 993K spends its time working, not being worked on.

- Minimize service time and maximize production through key ground level access points and grouped service centers
- Monitoring the machine and forewarning of machine trouble allows you to plan daily maintenance and schedule downtime to ensure continued job site productivity



SERVICE ACCESS. Ground level access service points, as well as grouped serviced points, lead to easier servicing, minimizing service time and maximizing production. The 993K offers five centralized service centers located throughout the machine. This allows a service technician to perform a variety of service procedures often ground level or platform from access to the VIMS advisor to grease fittings for the frame.

Standard Service Center. The 993K offers one point of service for manual grease points or AutoLube fast fill (optional), implement and steering hydraulic oil ecology drains, Cat Electronic Technician, VIMS connection points, 12-volt battery supply, key switch to power ECMs, tray for computer and a light for nighttime servicing.

Deluxe Service Center (Optional).

The optional deluxe service center offers all the features of the Standard Service Center and these additional features:

- Indicator lights for add level on the fuel, windshield fluid, engine oil, engine coolant, implement oil, transmission oil, steering oil, Oil Renewal System (ORS) and AutoLube, if equipped
- Fluid drain and fill for the engine, engine coolant, hydraulic tank, transmission, steering and brake hydraulic oils, ORS reservoir and AutoLube Quick Fill
- VIMS messenger display and power switch (advisor display in the cab)

Bumper Service Center. The bumper service center features safety service controls including starter, transmission lockouts, emergency engine shutdown and battery disconnect. The bumper service center also features an auxiliary starting receptacle and stairway light switch.



REMOTE DIAGNOSTIC PRESSURE PORTS.

Front Frame Hydraulic Center. The front frame hydraulic center is accessible from the ground level right side and provides one location to monitor implement pump pressures.

Rear Frame Hydraulic Center. The rear frame service center is accessible from the cab platform and provides one location to monitor rear frame pressures like fan pump, steering pump, brake accumulator, impeller clutch torque converter, lock up clutch and transmission pressures.



Hydraulic and Engine Service Area.

On top of the platform are access panels for the hydraulic implement filters, fuel filters, implement pilot filter, fuel water separator and implement tank breaker relief.

Electronic Service Center. A centralized electronic service center is located on the right side of the cab and provides one service point for transmission implements, ECMs, breakers and fuses. It is isolated from machine vibration and sealed against weather elements.

AutoLube System Option. The AutoLube System provides precise, automatic lubrication of pins and bushings while the machine is in operation. Automatic lubrication reduces time spend on daily maintenance and downtime for unplanned repairs due to insufficient greasing.

DIAGNOSTICS. The 993K offers customers the ability to troubleshoot, monitor machine information, customize operator settings for continuity of operation and set machine configuration. A number of these tasks are accomplished through the new VIMS advisory monitoring system that monitors over 100 machine parameters. VIMS Advisor is bigger and allows for more descriptive text displays. Additional capabilities include alerting the operator to malfunction in machine systems or a change in machine settings.

S-O-SSM Services. Keep minor repairs from becoming major ones and avoid complete failures. By regularly taking samples from the ports provided, your Cat dealer tracks and predicts wear of components and parts, oil performance and oil condition.

ADDITIONAL SERVICE SUPPORT.

Product Link. Product Link is a state-of-the-art satellite technology based product that provides an information flow between machine on-board systems and the Caterpillar operations center.

Equipment Manager. With a subscription to Equipment Manager through the Cat Dealer StoreFront, the information collected through Product Link can be transmitted to a computer.



DEALER SUPPORT. The Cat global network of independently owned dealers is the best in the world at providing support to keep your loader up and running. Known for parts availability and technical expertise, Cat dealers are partners in your business.



Service Capabilities. Cat field service technicians have the experience and tools necessary to service your loader on site. Field service trucks are fully loaded with state-of-the-art tools and diagnostic equipment as well as specifications and schematics for every Cat machine. Technical experts at the dealership and Caterpillar are available to provide assistance to field service technicians when needed.

When on-site repair isn't enough, Cat dealerships are fully equipped to service your loader quickly.

PARTS AVAILABILITY. Caterpillar provides an unsurpassed level of personalized service for your wheel loader. With parts distribution centers throughout the world, most parts can be delivered in 24 hours.

REMANUFACTURED PARTS. Cat engines and major components are designed to be remanufactured and provide multiple life cycles. The Cat Reman program is more extensive than most rebuild programs. Components are actually remanufactured in the factory to the original specifications with necessary product updates. Reman products are stocked in distribution centers around the world and are ready to install to minimize downtime, maintain productivity and profitability. You receive the same warranty and reliability as new products at a cost savings of 40 to 70 percent.

Operator Comfort

The new 993K has been ergonomically designed to enhance operator comfort – contributing to a more productive job site.



- Best-in-class working environment for this wheel loader size class
- Greater control and ease of operation for your operator
- Ergonomically designed for the health and safety of your operator

OPERATING ENVIRONMENT. The 993K cab has been ergonomically designed to offer operators the best in working class environment.



Seat. The Cat Comfort air suspension seat, standard in the 993K, is built strong and durable and is six-way adjustable to accommodate operators of all sizes. The seat features an automotive-style lumbar support for maximum comfort. The right hand armrest with integrated implement controls adjusts for comfortable, convenient operation. A heated seat option is available for additional comfort.

Operator Training. A 14 percent increase in cab size allows room for a trainer seat with 76.2 mm (3 in) seat belt. This allows for a safe method to properly train your operator.

Entry and Exit. Wider stairways and two side access points are just two features added to the 993K to assist the operator in getting on and off the machine.

Another key option is the powered Rear Access Egress System (RAES) that assists in access from the ground-to-stairway platform.

Ease of Operation. The main control panel on the 993K is located to the right of the operator's seat, keeping everything within reach of the operator. All switches and controls are conveniently placed to allow efficiency and improved productivity all while minimizing operator fatigue.

Special attention was paid to implement control effort and location. The implement controls are fully adjustable and seat mounted to allow the operator to set the controls to their size. With operator repetitive motions, fatigue is minimized with low-effort implement controls.

VISIBILITY. The 993K provides excellent visibility to both the front and rear of the machine. The cab has been raised two feet for better visibility to the truck body. Wipers with intermittent feature on both front and back keep the windows clean in any condition. The cab roof has channels that direct rain off the corners of the cab, helping keep windows clear.

Rear Vision Camera. An optional rear vision camera is available to clearly monitor movement behind the wheel loader.

Windshield Cleaning Package.

A windshield cleaning package provides additional steps and handrails to provide easy access for cleaning the front windows.

Additional optional features that enhance visibility include high intensity discharge (HID) lighting package and rotating warning beacons.



ERGONOMICS. Caterpillar understands that wheel loaders work in some of the harshest environments. By controlling normal machine vibrations and sound levels, operator efficiency and productivity are improved. From the ground up, the Cat 993K is designed with many features (standard and optional) that reduce vibration.

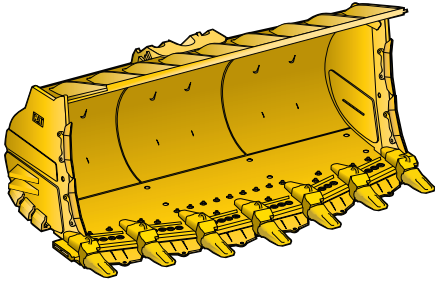
- When working, the noise inside and outside the 993K cab has been lowered with an operator sound level of 72 dB(A)
- Ride Control is an option designed to reduce jolting and bouncing during load and carry operations. An accumulator acts as a shock absorber to reduce machine pitching and provide a smoother ride over rough terrain

- Electronically controlled, automatic kickouts provide a smooth modulated cylinder stop throughout the digging cycle.
- Air suspension seat-mounted implement controls reduce vertical vibrations that come up through the floor

All these features minimize operator fatigue, resulting in operator comfort and productivity.

Buckets and Work Tools

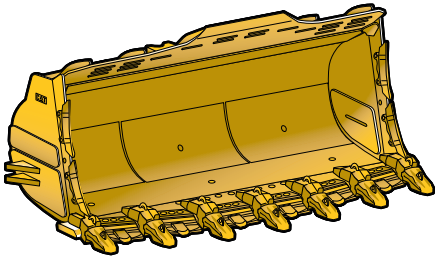
The combination of the right bucket and Ground Engaging Tools with the right machine will provide the best possible performance in your application.



CAT BUCKETS. Cat buckets and Ground Engaging Tools (GET) provide versatility on any job site. Proper bucket and application match delivers increased stability and maximum productivity. To better match your 993K to material conditions, contact your Cat dealer for specialty bucket needs.

Buckets. For the 993K, bucket capacities range in size from 12.2-14.5 m³ (16-19 yd³). The following information highlights bucket specifications and available buckets.

Heavy Duty Rock Bucket. For use in extremely aggressive applications such as face loading tightly compacted pit material. Intended for use in materials where moderate abrasion and impact is encountered.



High Abrasion Bucket. For use in extremely aggressive applications such as face loading iron ore. Intended for use in materials where high abrasion and moderate impact is encountered and a smooth floor is desired.

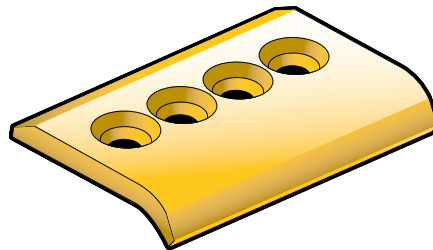
Coal Bucket. A 23.7 m³ (31 yd³) bucket for use in coal or other light density non-abrasive materials.

Custom Buckets. Cat[®] Work Tools can design a bucket for your specific needs and material densities. Contact your Cat dealer for more information.

Ground Engaging Tools (GET). Cat GET increase machine productivity and protect the expensive structural components of your bucket.

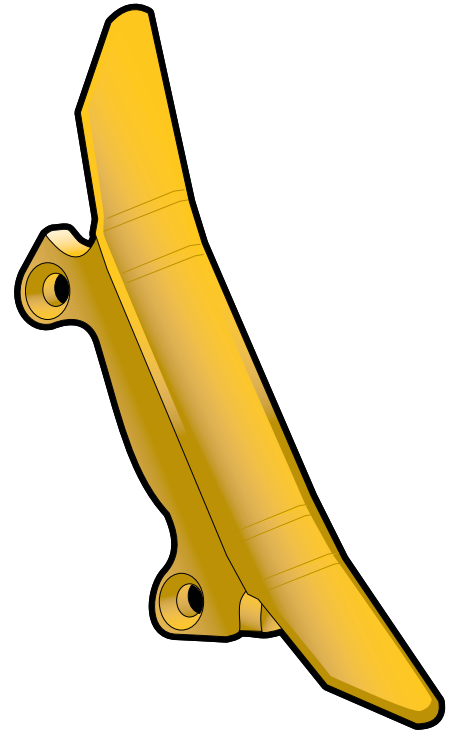


Bucket Wings (optional). Bucket wings provide additional tire protection by deflecting rocks away from the path of the tire. Bucket wings can be added to all buckets.



Moderate and Abrasive. Key GET utilized in these types of applications include:

- Bucket tips
- Bolt-on segments
- Top wear plates
- Sidebar protectors
- Base edge wear plates
- Mechanically Attached Wear Plates (MAWPS)
- Weld-on heel shrouds



Sidebar Protector

Extreme Applications. For use in extreme applications such as face loading granite, GET recommendations include:

- Half-arrow segments
- Adapter covers
- Top wear plates
- Dual (4) sidebar protectors
- Base edge wear plates
- Bucket wings
- Inner and outer liners
- Bucket wings

Cat® K Series™ Tips. The newest generation of GET works harder and lasts longer. K Series GET offers:

- Hammerless installation and removal
- Tips are held in place with a one-piece, vertical retainer
- Sleeker, sharper digging profile provides better penetration



Heavy Penetration. Recommended for high abrasive and impact conditions, especially shot rock

- Excellent penetration and wear material stays sharp



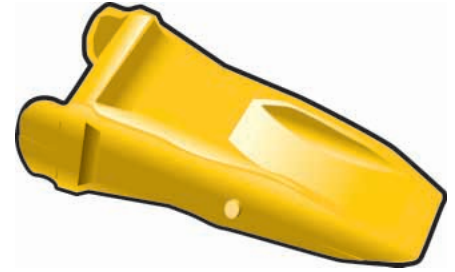
Heavy Abrasion. Recommended for high abrasive, low-to-moderate impact, easier-to-penetrate materials

- Excellent wear material, less penetration



General Duty. Recommended for general applications with up to moderate impact and abrasive conditions

- Good penetration, self-sharpening cavities



Extra Duty. Recommended for general applications requiring more wear material in moderate-to-high impact conditions

- Good wear material, good penetration



Penetration. Recommended for harder-to-penetrate, moderate-to-high impact, lower abrasive materials

- Very good penetration, less wear material stays sharp

Fill Factor	Payload kg/m ³ (lb/yd ³)	Bucket Capacity m ³ (yd ³)	Material Density kg/m ³ (lb/yd ³)
100%	22.7 (25.0)	12.2 (16)	2834 (3,125)
110%	24.9 (27.5)	12.2 (16)	3118 (3,438)
90%	20.4 (22.5)	12.2 (16)	2551 (2,813)
100%	22.7 (25.0)	12.9 (17)	2667 (2,941)
110%	24.9 (27.5)	12.9 (17)	2934 (3,235)
90%	20.4 (22.5)	12.9 (17)	2400 (2,647)
100%	22.7 (25.0)	13.8 (18)	2519 (2,778)
110%	24.9 (27.5)	13.8 (18)	2772 (3,056)
90%	20.4 (22.5)	13.8 (18)	2268 (2,500)
100%	22.7 (25.0)	14.5 (19)	2387 (2,632)
110%	24.9 (27.5)	14.5 (19)	2626 (2,895)
90%	20.4 (22.5)	14.5 (19)	2148 (2,368)

Owning and Operating Costs

The 993K is engineered to provide durability, reliability, ease of serviceability and maximum productivity for minimal downtime and machine life...putting more to your bottom line.



- Machine design features that extend machine life and minimize downtime keep the 993K in production
- Ease of serviceability for the 993K includes centralized service centers and ground level access. Less service time means more working time
- Key machine monitoring allows for key or standard maintenance to be scheduled around your production schedule
- Cat dealers offer total customer support that's unmatched in the industry

MACHINE AND COMPONENT LIFE.

With a high hour structure life and key life of major components, the 993K is a leader in durability and structural life. Additionally, commonality of components with other Cat machines such as the 994F transmission and the C32 engine used on the D11 and 777F, ensure proven, field tested components that give maximum life.

Sleeve Bearing Linkage Pins. The new sleeve bearing linkage pins feature an innovative design that virtually eliminates any galling that can occur. Additionally, with any pin failures, an early predictor allows the customer to maintain machine production and schedule downtime on a regular maintenance day. Longer life and predictable wear mean you get maximum performance at the lowest possible operating cost.

EASE OF SERVICEABILITY. Less downtime means more working time. Centralized service centers were designed for ease of access which leads to easier serviceability.



Key Service Centers. Service points are clustered in five centralized service centers, most of which can be accessed safely from ground level. The five key service centers are:

- Standard Service Center offering one point of service for a number of key service features. Available as an option is the Deluxe Service Center with the same features of the Standard Service Center, as well as additional fluid indicator lights, fluid drain and fill connections and VIMS Messenger Display
- Bumper Service Center with a number of safety service controls
- Remote Diagnostic Ports front and rear frame
- Hydraulic and Engine Service Area
- Electronic Service Center

MACHINE MONITORING. Monitoring the machine and forewarning of machine trouble allows you to schedule downtime and ensure job site productivity.

VIMS Advisory Monitoring System. Allows you to monitor over 100 machine parameters and alerts the operator to malfunctions in machine systems or a change in machine settings.



CAT DEALER. Your Cat dealer offers a wide range of services that can be set up under a customer support agreement when you purchase your equipment. Your dealer will help you choose a plan that will cover everything from machine and work tools selection to replacement so you get the best return on your investment.

Selection. Make detailed comparisons of the machines you are considering before you buy. How long do components last? What is the cost of preventive maintenance? What is the cost of lost production? Your Cat dealer can give you precise answers to these questions.

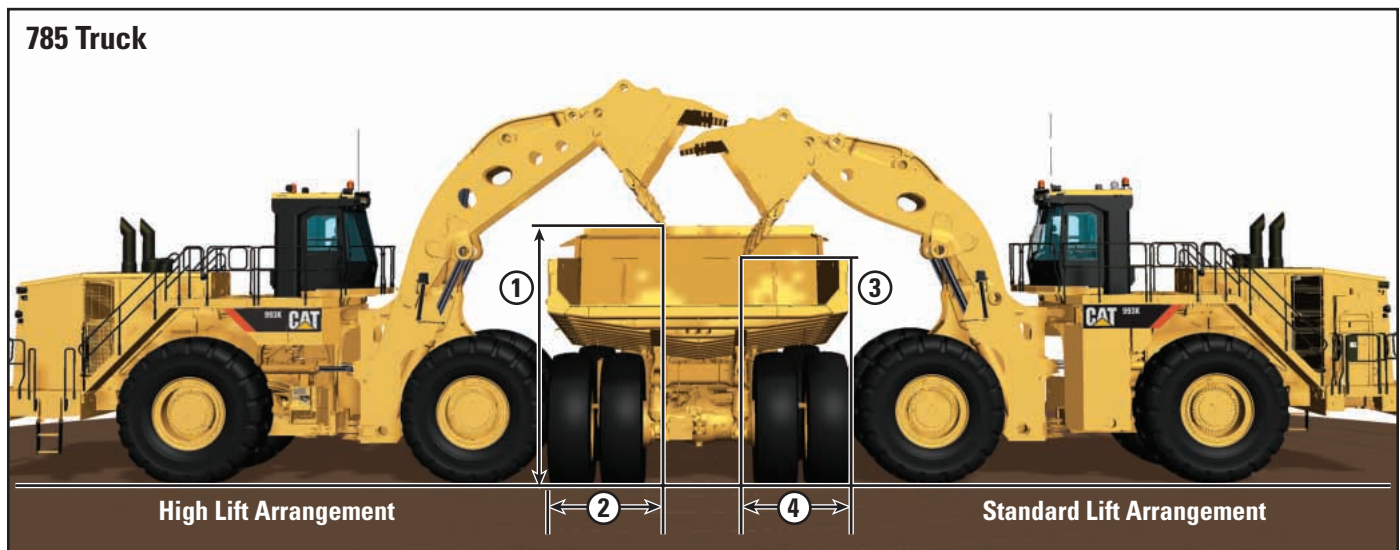
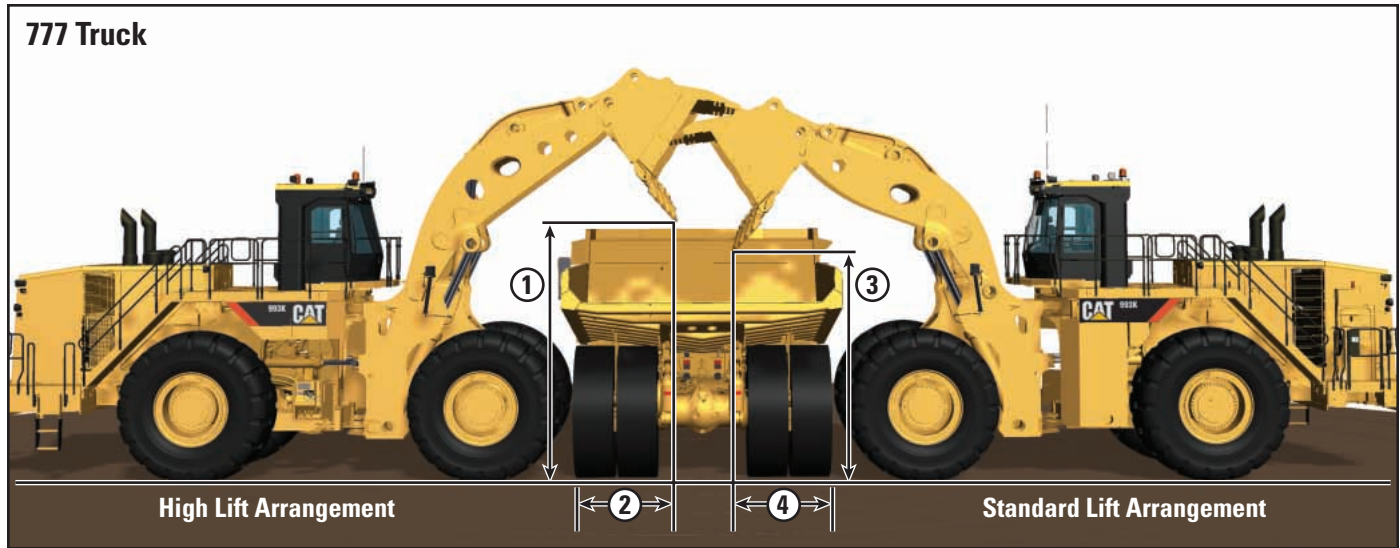
Purchase. Look past initial price. Consider the financing options available as well as day-to-day operating costs. This is also the time to look at dealer services that can be included in the cost of the machine to yield lower equipment owning and operating costs over the long run.

Operation. Improving operating techniques can boost your profits. Your Cat dealer has training videos, literature and other ideas to help you increase production.

Product Support. You will find nearly all parts at our dealer parts counter. Cat dealers utilize a world-wide computer network to find in-stock parts to minimize machine downtime. You can save money with remanufactured parts and get the same warranty and reliability as new products but with a 40 to 70 percent cost savings.

High Lift Arrangement Optional Attachment

The 993K will meet your needs with a standard lift arrangement or the optional high lift arrangement.



High Lift Arrangement. Provides up to 645 mm (2.1 ft) more dump clearance at full lift and 45 degree discharge and 100 mm (3.94 in) in additional reach than the standard 993K lift arrangement.

Truck Match.

- The 993K standard lift arrangement is recommended for use with the Cat 777 Off-Highway Truck.
- The 993K optional high lift arrangement is designed to match the Cat 785 Off-Highway Truck.

NOTE. 1 and 3 dump clearance at full lift and 45° dump. 2 and 4 reach at full lift and 45° dump.

Engine

Engine Model	Cat® C32 ACERT™	
Gross Power – SAE J1995	782 kW	1,050 hp
Net Power – SAE J1349	708 kW	950 hp

- Cat engine with ACERT™ Technology – U.S. EPA Tier 2, EU Stage II compliant

Operating Specifications

Rated Payload	22.7 tonnes	25 tons
Operating Weight	133 637 kg	294,800 lb
Breakout Force	709.2 kN	159,562 lb
Static Tipping Load, Full Turn	71 667 kg	158,026 lb

- For 13 m³ (17.0 yd³) bucket

Transmission

Converter Drive – Forward 1	6.9 km/h	4.3 mph
Converter Drive – Forward 2	11.9 km/h	7.4 mph
Converter Drive – Forward 3	20.1 km/h	12.5 mph
Converter Drive – Reverse 1	7.6 km/h	4.7 mph
Converter Drive – Reverse 2	13.2 km/h	8.2 mph
Converter Drive – Reverse 3	22.1 km/h	13.7 mph
Direct Drive – Forward 1	Lock-up disabled	
Direct Drive – Forward 2	12.4 km/h	7.7 mph
Direct Drive – Forward 3	21.9 km/h	13.6 mph
Direct Drive – Reverse 1	7.7 km/h	4.8 mph
Direct Drive – Reverse 2	13.7 km/h	8.5 mph
Direct Drive – Reverse 3	24.2 km/h	15 mph

- Based on two percent rolling resistance and 50/65-51 tires

Hydraulic Cycle Time

Rackback	2.4 Seconds
Raise	9.4 Seconds
Dump	2.1 Seconds
Lower Float Down (Empty)	6.7 Seconds
Power Down	5.1 Seconds

Service Refill Capacities

Fuel Tank	2063 L	545 gal
Cooling System	318 L	84 gal
Crankcase	120 L	32 gal
Transmission	170 L	45 gal
Differentials and Final Drives – Front	493 L	130 gal
Differentials and Final Drives – Rear	485 L	128 gal
Hydraulics – Lift/Tilt	475 L	126 gal
Hydraulics – Steering/Brake	185 L	49 gal

Buckets

Bucket Capacities	12.2-23.7 m ³	16-31 yd ³
Coal Bucket	23.7 m ³	31 yd ³

Brakes

Brakes	Meet SAE J1473, OCT90 and ISO 3450:1992
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Cab

Cab – ROPS/FOPS	Meets SAE and ISO standards
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- Cat cab with integrated Rollover Protective Structure (ROPS) are standard in North America and Europe
- ROPS meets SAE J1040 APR88 and ISO 3471:1994 criteria
- Falling Objects Protective Structure (FOPS) meets SAE J231 JAN81 and ISO 3449:1992 Level II criteria
- The operator sound pressure level measured according to the procedures specified in ISO 6394:1998 is 72 dB(A) for the cab offered by Caterpillar, when properly installed and maintained and tested with the doors and windows closed
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in noisy environments

Tires

Tires	Choose from a variety of tires to meet your application
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- Choice of:
 - 50/65R51, VSDL BS L5 Bridgestone
 - 50/65-51,62PR BS DL L5 Bridgestone
 - 50/65 R51, MX L5 Michelin
- NOTE: In certain applications (such as load and carry) the loader's productive capabilities might exceed the tires' tonnes-km/h (ton/mph) capabilities. Caterpillar recommends that you consult a tire supplier to evaluate all conditions before selecting a tire model

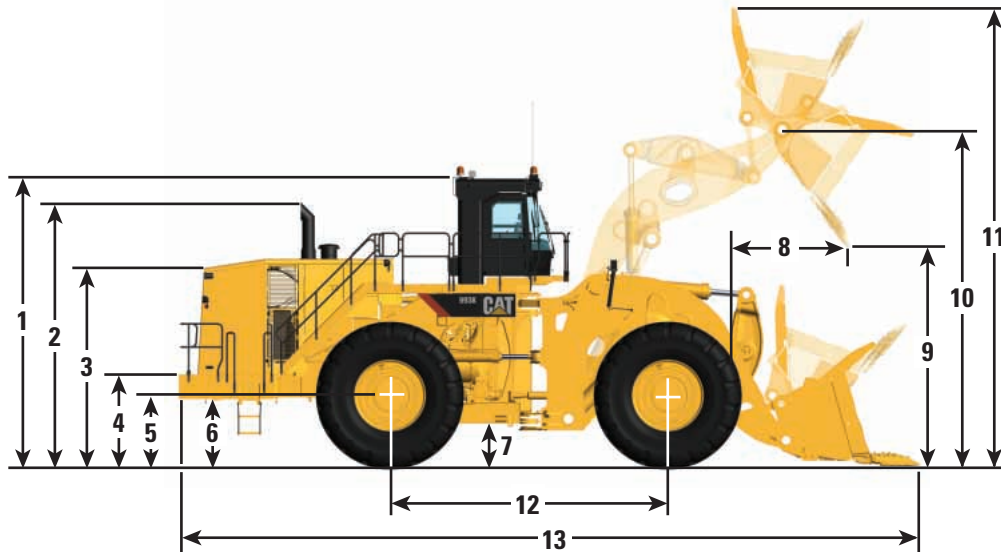
Loader Hydraulic System

Relief Valve Setting	29 500 kPa	4,278 psi
Cylinders, Double Acting:	266.7 mm	10.5 in
Lift, Bore and Stroke	1882 mm	84 in
Cylinder, Double Acting: Tilt,	235 mm	9.3 in
Bore and Stroke	1040 mm	41 in

- Pumps (3), fully variable E/H displacement control – 180 cc (1) and 250 cc (2)

Dimensions

All dimensions are approximate.



	993K Standard Lift 50/65R51 Tires	993K High Lift 50/65R51 Tires
1 Height to top of ROPS	6000 mm (19.7 ft)	6000 mm (19.7 ft)
2 Height to top of stack	5448 mm (17.9 ft)	5448 mm (17.9 ft)
3 Height to top of hood	4252 mm (14.0 ft)	4252 mm (14.0 ft)
4 Height to top of bumper	1791 mm (5.9 ft)	1791 mm (5.9 ft)
5 Height to center axle	1535 mm (5.0 ft)	1535 mm (5.0 ft)
6 Bumper clearance	1180 mm (3.9 ft)	1180 mm (3.9 ft)
7 Ground clearance	590 mm (2.0 ft)	590 mm (2.0 ft)
8 Reach at 45° dump (tooth tip)	2503 mm (8.2 ft)	2612 mm (8.6 ft)
9 Clearance at 45° dump (tooth tip)	4654 mm (15.3 ft)	5299 mm (17.4 ft)
10 Bucket pin height at full lift	7002 mm (23.0 ft)	7647 mm (25.1 ft)
11 Maximum overall height		
Bucket raised	9789 mm (32.1 ft)	10 433 mm (34.0 ft)
12 Wheel base	5890 mm (19.4 ft)	5890 mm (19.3 ft)
13 Maximum overall length	15 214 mm (50.0 ft)	15 846 mm (52.0 ft)

Tire used is a 50/65R51 Bridgestone 2** with static radial 1347 mm (4.4 ft)

Operation/Bucket Specifications – Standard Lift

		Bridgestone 2**		Bridgestone 2**		Bridgestone 2**		Bridgestone 2**	
Bucket Type		Rock		Rock		Rock		Rock	
Ground Engaging Tools		Teeth & Segments		Teeth & Segments		Teeth & Segments		Teeth & Segments	
Cutting Edge Type		Spade		Spade		Spade		Spade	
Bucket Part No. (Group Level)		303-3270		303-3310		303-3260		303-3330	
		Standard Rock		High Abrasion Rock		Standard Rock		High Abrasion Rock	
		Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift
Rated capacity (§)	m ³	13.0	13.0	13.0	13.0	12.0	12.0	12.0	12.0
	yd ³	17.0	17.0	17.0	17.0	16.0	16.0	16.0	16.0
Struck capacity (§)	m ³	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	yd ³	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
Heaped capacity (§)	m ³	13.0	13.0	13.0	13.0	12.0	12.0	12.0	12.0
	yd ³	17.0	17.0	17.0	17.0	16.0	16.0	16.0	16.0
Width (§)	mm	5080	5080	5160	5160	5080	5080	5160	5160
	ft	16.7	16.7	16.9	16.9	16.7	16.7	16.9	16.9
Dump clearance at full lift and 45° discharge (§)	mm	4654	5299	4721	5366	4744	5389	4769	5414
	ft	15.3	17.4	15.5	17.6	15.6	17.7	15.6	17.8
Reach at full lift and 45° discharge (§)	mm	2503	2612	2507	2616	2413	2522	2459	2568
	ft	8.2	8.6	8.2	8.6	7.9	8.3	8.1	8.4
Reach with lift arms horizontal and bucket level	mm	4922	5438	4878	5394	4794	5310	4810	5326
	ft	16.1	17.8	16.0	17.7	15.7	17.4	15.8	17.5
Digging depth (§)	mm	246	313	231	298	246	313	231	298
	in	9.7	12.3	9.1	11.7	9.7	12.3	9.1	11.7
Overall length (§)	mm	15 214	15 846	15 158	15 792	15 086	15 718	15 090	15 724
	ft	49.9	52.0	49.7	51.8	49.5	51.6	49.5	51.6
Overall height with bucket at full raise (§)	mm	9789	10 433	9762	10 407	9680	10 325	9680	10 325
	ft	32.1	34.2	32.0	34.1	31.8	33.9	31.8	33.9
Loader clearance circle with bucket in carry position (§)	mm	11 018	11 312	11 021	11 315	11 019	11 313	11 003	11 296
	ft	36.1	37.1	36.2	37.1	36.2	37.1	36.1	37.1
Static tipping load straight † (§)	kg	84 525	70 917	83 129	69 597	84 691	71 113	83 728	70 165
	lb	186,378	156,372	183,300	153,460	186,743	156,803	184,620	154,714
Static tipping load at full 40° turn †† (§)	kg	73 327	61 061	71 956	59 759	73 509	61 269	72 542	60 318
	lb	161,687	134,639	158,663	131,769	162,087	135,097	159,956	133,002
Static tipping load at full 43° turn †† (§)	kg	71 667	59 599	70 299	58 301	71 851	59 809	70 884	58 858
	lb	158,026	131,417	155,010	128,553	158,431	131,879	156,299	129,782
Breakout force †† (§)	kN	709.2	708.5	725.1	724.4	753.1	752.4	751.6	750.8
	lb	159,562	159,416	163,147	162,980	169,437	169,282	169,113	168,940
Operating weight † (§)	kg	133 637	134 603	134 620	135 586	133 374	134 340	134 174	135 140
	lb	294,670	296,800	296,838	298,968	294,091	296,221	295,855	297,985

(§) Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (§).

† Static tipping load and operating weight shown are based on standard machine configuration with a full fuel tank, coolant, lubricants and operator.

†† Measured 102 mm (4.0"): behind tip of segments with bucket hinge pin as pivot point in accordance with SAE J732C.

Bridgestone 2**		Bridgestone 2**		Michelin		Michelin		Michelin		Michelin	
Rock		Rock		Rock		Rock		Rock		Rock	
Teeth & Segments		Teeth & Segments		Teeth & Segments		Teeth & Segments		Teeth & Segments		Teeth & Segments	
Spade		Spade		Spade		Spade		Spade		Spade	
303-3280		303-3290		303-3270		303-3310		303-3260		303-3330	
Standard Rock		Standard Rock		Standard Rock		High Abrasion Rock		Standard Rock		High Abrasion Rock	
Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift
13.8	13.8	14.5	14.5	13.0	13.0	13.0	13.0	12.0	12.0	12.0	12.0
18.0	18.0	19.0	19.0	17.0	17.0	17.0	17.0	16.0	16.0	16.0	16.0
11.0	11.0	12.0	12.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
14.4	14.4	15.7	15.7	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
14.0	14.0	14.5	14.5	13.0	13.0	13.0	13.0	12.0	12.0	12.0	12.0
18.3	18.3	19.0	19.0	17.0	17.0	17.0	17.0	16.0	16.0	16.0	16.0
5080	5080	5080	5080	5080	5080	5160	5160	5080	5080	5160	5160
16.7	16.7	16.7	16.7	16.7	16.7	16.9	16.9	16.7	16.7	16.9	16.9
4555	5200	4555	5200	4675	5320	4742	5387	4765	5410	4790	5435
14.9	17.1	14.9	17.1	15.3	17.5	15.6	17.7	15.6	17.8	15.7	17.8
2602	2711	2602	2711	2501	2610	2505	2614	2411	2520	2457	2566
8.5	8.9	8.5	8.9	8.2	8.6	8.2	8.6	7.9	8.3	8.1	8.4
5062	5578	5062	5578	4920	5436	4876	5392	4792	5308	4808	5324
16.6	18.3	16.6	18.3	16.1	17.8	16.0	17.7	15.7	17.4	15.8	17.5
246	313	246	313	225	292	210	277	225	292	210	277
9.7	12.3	9.7	12.3	8.9	11.5	8.3	10.9	8.9	11.5	8.3	10.9
15 354	15 986	15 354	15 986	15 198	15 832	15 142	15 778	15 070	15 704	15 074	15 710
50.4	52.4	50.4	52.4	49.9	51.9	49.7	51.8	49.4	51.5	49.5	51.5
9789	10 433	9918	10 563	9810	10 454	9783	10 428	9701	10 346	9701	10 346
32.1	34.2	32.5	34.7	32.2	34.3	32.1	34.2	31.8	33.9	31.8	33.9
11 054	11 352	11 054	11 352	11 016	11 311	11 019	11 314	11 017	11 312	11 002	11 295
36.3	37.2	36.3	37.2	36.1	37.1	36.2	37.1	36.1	37.1	36.1	37.1
83 351	69 907	83 573	70 031	83 938	70 400	82 544	69 081	84 104	70 596	83 141	69 649
183,788	154,145	184,278	154,418	185,083	155,232	182,008	152,323	185,450	155,665	183,327	153,576
72 228	60 109	72 404	60 197	72 809	60 604	71 439	59 304	72 991	60 813	72 024	59 862
159,262	132,540	159,650	132,735	160,544	133,633	157,523	130,765	160,945	134,092	158,814	131,996
70 578	58 656	70 747	58 739	71 159	59 152	69 792	57 854	71 343	59 362	70 376	58 411
155,625	129,337	155,998	129,520	156,905	130,430	153,892	127,568	157,312	130,893	155,179	128,797
665.7	665.0	664.5	663.9	710.9	710.1	726.8	726.0	754.8	754.0	753.4	752.5
149,771	149,633	149,509	149,371	159,941	159,773	163,533	163,343	169,837	169,659	169,511	169,315
134 088	135 054	134 263	135 229	132 877	133 843	133 860	134 826	132 614	133 580	133 414	134 380
295,665	297,795	296,051	298,181	292,995	295,125	295,162	297,292	292,415	294,545	294,179	296,309

Operation/Bucket Specifications – High Lift

		Michelin		Michelin		Bridgestone 62 PR		Bridgestone 62 PR	
Bucket Type		Rock		Rock		Rock		Rock	
Ground Engaging Tools		Teeth & Segments		Teeth & Segments		Teeth & Segments		Teeth & Segments	
Cutting Edge Type		Spade		Spade		Spade		Spade	
Bucket Part No. (Group Level)		303-3280		303-3290		303-3270		303-3310	
		Standard Rock		Standard Rock		Standard Rock		High Abrasion Rock	
		Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift
Rated capacity (§)	m ³	14.0	14.0	14.5	14.5	13.0	13.0	13.0	13.0
	yd ³	18.0	18.0	19.0	19.0	17.0	17.0	17.0	17.0
Struck capacity (§)	m ³	11.0	11.0	12.0	12.0	10.0	10.0	10.0	10.0
	yd ³	14.4	14.4	15.7	15.7	13.1	13.1	13.1	13.1
Heaped capacity (§)	m ³	14.0	14.0	14.0	14.0	13.0	13.0	13.0	13.0
	yd ³	18.3	18.3	18.3	18.3	17.0	17.0	17.0	17.0
Width (§)	mm	5080	5080	5080	5080	5080	5080	5160	5160
	ft	16.7	16.7	16.7	16.7	16.7	16.7	16.9	16.9
Dump clearance at full lift and 45° discharge (§)	mm	4576	5221	4576	5221	4719	5364	4786	5431
	ft	15.0	17.1	15.0	17.1	15.5	17.6	15.7	17.8
Reach at full lift and 45° discharge (§)	mm	2600	2709	2600	2709	2503	2612	2507	2616
	ft	8.5	8.9	8.5	8.9	8.2	8.6	8.2	8.6
Reach with lift arms horizontal and bucket level	mm	5060	5576	5060	5576	4922	5438	4878	5394
	ft	16.6	18.3	16.6	18.3	16.1	17.8	16.0	17.7
Digging depth (§)	mm	225	292	225	292	181	248	166	233
	in	8.9	11.5	8.9	11.5	7.1	9.7	6.5	9.7
Overall length (§)	mm	15 338	15 972	15 338	15 972	15 163	15 803	15 107	15 748
	ft	50.3	52.4	50.3	52.4	49.7	51.8	49.6	51.7
Overall height with bucket at full raise (§)	mm	9810	10 454	9939	10 584	9854	10 498	9827	10 472
	ft	32.2	34.3	32.6	34.7	32.3	34.4	32.2	34.4
Loader clearance circle with bucket in carry position (§)	mm	11 053	11 351	11 053	11 351	11 014	11 310	11 017	11 313
	ft	36.3	37.2	36.3	37.2	36.1	37.1	36.1	37.1
Static tipping load straight † (§)	kg	82 767	69 393	82 987	69 515	84 525	70 917	83 129	69 597
	lb	182,502	153,012	182,986	153,281	186,378	156,372	183,300	153,460
Static tipping load at full 40° turn †† (§)	kg	71 713	59 655	71 886	59,742	73 327	61,061	71,956	59 759
	lb	158,126	131,540	158,510	131,731	161,687	134,639	158,663	131,769
Static tipping load at full 43° turn †† (§)	kg	70 074	58 211	70 240	58 293	71 667	59 599	70 299	58 301
	lb	154,512	128,356	154,880	128,535	158,026	131,417	155,010	128,553
Breakout force †† (§)	kN	667.2	666.5	666.1	665.4	714.3	713.3	730.3	729.3
	lb	150,130	149,970	149,867	149,708	160,713	160,503	164,317	164,088
Operating weight † (§)	kg	133 328	134 294	133 503	134 469	133 637	134 603	134 620	135 586
	lb	293,989	296,119	294,375	296,505	294,670	296,800	296,838	298,968

(§) Specifications and ratings conform to all applicable standards recommended by the Society of Automotive Engineers. SAE Standards J732C govern loader ratings and are denoted in the text by (§).

† Static tipping load and operating weight shown are based on standard machine configuration with a full fuel tank, coolant, lubricants and operator.

†† Measured 102 mm (4.0"): behind tip of segments with bucket hinge pin as pivot point in accordance with SAE J732C.

Bridgestone 62 PR		Bridgestone 62 PR		Bridgestone 62 PR		Bridgestone 62 PR	
Rock		Rock		Rock		Rock	
Teeth & Segments		Teeth & Segments		Teeth & Segments		Teeth & Segments	
Spade		Spade		Spade		Spade	
303-3260		303-3330		303-3280		303-3290	
Standard Rock		High Abrasion Rock		Standard Rock		Standard Rock	
Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift	Std.	Hi-Lift
12.0	12.0	12.0	12.0	14.0	14.0	14.5	14.5
16.0	16.0	16.0	16.0	18.0	18.0	19.0	19.0
10.0	10.0	10.0	10.0	11.0	11.0	12.0	12.0
13.1	13.1	13.1	13.1	14.4	14.4	15.7	15.7
12.0	12.0	12.0	12.0	14.0	14.0	14.0	14.0
16.0	16.0	16.0	16.0	18.3	18.3	18.3	18.3
5080	5080	5160	5160	5080	5080	5080	5080
16.7	16.7	16.9	16.9	16.7	16.7	16.7	16.7
4809	5454	4834	5479	4620	5265	4620	5265
15.8	17.9	15.9	18.0	15.2	17.3	15.2	17.3
2413	2522	2459	2568	2602	2711	2602	2711
7.9	8.3	8.1	8.4	8.5	8.9	8.5	8.9
4794	5310	4810	5326	5062	5578	5062	5578
15.7	17.4	15.8	17.5	16.6	18.3	16.6	18.3
181	248	166	233	181	248	181	248
7.1	9.7	6.5	9.7	7.1	9.7	7.1	7.1
15 035	15 675	15 039	15 680	15 303	15 943	15 303	15 943
49.3	51.4	49.3	51.4	50.2	52.3	50.2	52.3
9745	10 390	9745	10 390	9854	10 498	9983	10 628
32.0	34.1	32.0	34.1	32.3	34.4	32.8	34.9
11 015	11 311	11 000	11 294	11 051	11 349	11 051	11 349
36.1	37.1	36.1	37.1	36.3	37.2	36.3	37.2
84 691	71 113	83 728	70 165	83 351	69 907	83 573	70 031
186,743	156,803	184,620	154,714	183,788	154,145	184,278	154,418
73 509	61 269	72 542	60 318	72 228	60 109	72 404	60 197
162,087	135,097	159,956	133,002	159,262	132,540	159,650	132,735
71 851	59 809	70 884	58 858	70 578	58 656	70 747	58 739
158,431	131,879	156,299	129,782	155,625	129,337	155,998	129,520
758.5	757.5	757.0	755.9	670.5	669.6	669.3	668.4
170,653	170,431	170,320	170,083	150,860	150,661	150,598	150,399
133 374	134 340	134 174	135 140	134 088	135 054	134 263	135 229
294,091	296,221	295,855	297,985	295,665	297,795	296,051	298,181

Serviceability



Standard Service Center (1)

- Ground Level Access
- Access to VIMS
- Cat ET and Comm2 Connectors
- 12V Power Converter Power Switch
- Implement and Steering Oil Ecology Drains
- Drop Down Laptop Platform
- Work Light
- Fill, if equipped
- Power-up Switch

Deluxe Service Center (option)

- Includes Standard features plus:
- Fast Fill and Evac Quick Disconnect Ports
- Transmission Oil
- Steering and Hydraulic Oil
- Oil Renewal System Fill (if equipped)
- AutoLube Fill, if equipped
- Engine Oil
- Engine Coolant
- Implement and Steering Ecology Drain Connectors
- Important Service Add Level Indicators
- VIMS Messenger Screen

Hydraulic and Engine Service Area (2)

- Platform Access
- Hydraulic Implement Filter
- Fuel Filters
- Implement Pilot Filter
- Fuel Water Separator
- Shunt Tank Fill
- S•O•SSM Port
- Implement Breaker Relief

Bumper Service Center (3)*

- Ground Level Access
- Jump Start Receptacle
- Transmission Lockout
- Starter Lockout
- Battery Disconnect
- Engine Shutdown
- Stair Lamp Switch

Remote Diagnostic Pressure Ports

Front Frame (4)

- Ground Level Access
- Lift and Lower Circuit
- Dump and Rackback Circuit
- Right Implement
- Left Implement
- Implement Pilot/Axle Motor
- Pilot Supply
- Manual Lower Valve

Rear Frame (5)

- Platform Access
- Left Steering Cylinder
- Right Steering Cylinder
- Diagnostic Pressure Taps
- Steering Pump Discharge
- Fan Drive
- Brake Accumulator
- Torque Converter Inlet
- Impeller Clutch
- Lock-up Clutch
- Transmission Lube
- Directional Clutch
- Speed Clutch
- Transmission Control Inlet

Electrical Service Center (6)

- Platform Access
- Breakers
- Fuse
- Electronic Control Modules

Battery Box Center (7)

- Two access doors for batteries
- Main Machine Breaker
- Main Machine Relay
- Starter Breaker
- Starter Relay

* This center offers a number of features that assist in maintaining a safe environment while servicing the 993K.

Safety

Visibility Safety

Standard Features

Long-life LED taillights

Cab raised 0.6 m (2 ft) for better visibility to truck box or hoppers

Articulated wiper/washer system with intermittent feature on front and rear windows

Optional Features

Rear vision camera with in-cab monitor

High Intensity Discharge (HID) lighting package

Rearview heated mirrors

Warning beacon lights

Egress and Ingress Safety

Standard Features

Primary and secondary exits

Punch stamped tread plates

600 mm (23.6 in) wide right and left hand stairway access with railings

Ground level nighttime lighting switch

Full perimeter railings on upper platform

Optional Features

Roading fenders

Rear Access Egress System (RAES)

Maintenance Safety

Standard Features

Battery lockout

Starter lockout

Hydraulic system lockout

Transmission lockout (both in-cab and ground level)

Ground level service center

Ground level sight gauges on all major systems

Optional Features

Ground level deluxe service center

Operator Safety

Standard Features

Front windshield cleaning platform access with handrails

Easily adjusted implement controls affixed to Cat Comfort Seat

Low-effort implement controls

Cab filtration system

Optional Features

Powered cab air pre-cleaner removes airborne dust before it reaches cab air filter, increasing filter service interval

Standard Equipment

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

ELECTRICAL

- Alarm, back-up
- Alternator, 150-amp brushless
- Batteries, maintenance-free (4) 1400 CCA
- Deutsch terminal connectors
- Diagnostic connector starting and charging system
- Electrical system, 24-Volt
- Electronic transmission control
- Lighting system, halogen (front and rear)
- Starting and charging system (24-Volt)
- Starter receptacle for emergency start
- Starter and transmission lockouts in bumper
- Electronic Service Center

OPERATOR ENVIRONMENT

- Advisor Display
 - Displays real time operating information, performs calibrations and customizes operator settings
- Air condition
- Air precleaner
- Cab
 - Sound suppressed and pressurized, separate external rollover protective structure (ROPS/FOPS), radio ready for entertainment including antenna, speakers, 12-Volt 10-amp converter and power port
- Cigar lighter and ashtray (12-Volt)
- Coat hook (2) with straps
- Controls, left and tilt function
- Heater and defroster
- Horn, electric
- Instrumentation gauges
 - Engine coolant temperature
 - Hydraulic oil temperature
 - Fuel level
 - Power train oil temperature
 - Tachometer
- Digital display on center console
 - Gear
 - Ground speed
 - Machine hours
- Light, dome (cab)
- Lunch box, beverage holders and manual holders
- Rimpull Control System
- Seat belt, retractable, 76 mm (3 in) wide
- STIC system
- Trainer seat with lap belt
- VIMS
 - External data port, Integral Payload Control System
- Wet-arm wipers and washers, front and rear
 - Intermittent front wipers

POWER TRAIN

- Brakes, oil-cooled, multi-disk, service and secondary
- Demand fan
- Drive line parking brake
- Fuel priming pump (electric)
- Ground level engine shutdown
- Precleaner, engine air intake (above hood)
- Radiator, Next Generation Modular NGMR)
- Starting aid, ether, automatic
- Throttle lock, electronic
- Transmission, 533 mm (21 in) planetary, powershift with 3F/3R, electronic control

OTHER STANDARD EQUIPMENT

- Automatic bucket leveler
- Automatic lift and lower bucket kickout
- Axle ecology drain
- Bumper Service Center
- Grouped hydraulic pressure ports
- Guards, crankcase and power train
- Hitch, drawbar with pin
- Impeller clutch
- Implement lock lever, cab
- Implement and steering ecology drains
- Linkage pins, maintenance-free
- Mufflers, under hood
- Oil sampling valves
- Positive flow control implement valve
- Rims
- Sight gauges
 - Steering oil level
 - Implement oil level
 - Transmission oil level
- Stairway, left and right side
- Starter lockout, bumper
- Steering, load sensing
- Steering and transmission lock lever, cab
- Transmission lockout, bumper

ANTI-FREEZE

- Premixed 50 percent concentration of Extended Life Coolant with freeze protection to -34°C (-29°F)

Optional Equipment

Optional equipment may vary. Consult your Caterpillar dealer for details.

ELECTRICAL

- Camera, rear vision – WAVES
- Light, warning beacons
- Power converter – additional 10 amps with standard amp
- Product Link – depends on geographic location

OPERATOR ENVIRONMENT

- Radio, AM/FM, CD basic
- Radio, satellite XM
- Radio, satellite Sirius
- Radio, satellite ready
- Sunscreen, front and rear windows
- Precleaner, turbine

POWER TRAIN

- Oil Renewal System (ORS)
- Ride Control

STARTING AIDS

- Heater, engine coolant, 120V
- Heater, engine coolant, 240V
- Roading fenders
- Sound suppression arrangement
- Axle oscillation limiting – recommended if customer adds chains to rear tires
- Computer Aided Earthmoving System, ready option
- Low ambient coolant, –50° C (–58° F)
- Buckets and GET – consult your Cat dealer for all options

Mandatory Equipment

Must choose from each category. Consult your Caterpillar dealer for more information.

LIFT ARRANGEMENTS

- Standard lift, standard filtration
- Standard lift, deluxe filtration
- High lift, standard filtration
- High lift, deluxe filtration

LUBE ARRANGEMENTS

- Line, grease, standard lubrication
- AutoLube arrangement

ELECTRONICS

- Advisor display software (select language group)

LIGHTING ARRANGEMENT

- Lighting, standard
- Lighting, premium

CAB WINDSHIELD

- Glass, cab window (silicone sealed bond)
- Glass, cab, rubber-mounted

OPERATOR SEAT

- Seat, standard
- Seat, heated

MIRROR ARRANGEMENT

- Mirror, standard
- Mirror, heated

TORQUE CONVERTER

- Standard ICTC with housing
- ICTC with housing and lock-up

Engine, standard

FUEL ARRANGEMENTS

- Fuel arrangement, standard
- Fuel arrangement, fast fill
- Fuel arrangement, heated (fuel heater)
- Fuel arrangement, fast fill, heated (fuel heater)

COOLING ARRANGEMENTS

- Standard – for ambient temperatures 43°C (110°F), standard filtration
- Standard – for ambient temperatures 43°C (110°F), deluxe filtration
- High Ambient – for ambient temperatures 55°C (131°F), standard filtration
- High Ambient – for ambient temperatures 55°C (131°F), deluxe filtration

SERVICE CENTER ARRANGEMENTS

- Service center, standard
- Service center, deluxe
- Software, messenger (select language group)

REAR ACCESS

- Standard steps and handrails
- Powered, rear access/egress system

STEERING AND FILTRATION SYSTEMS*

- Standard steering, standard filtration
- Secondary steering, deluxe filtration
- Secondary steering, standard filtration
- Secondary steering, deluxe filtration

*Standard and deluxe filtration options cannot be mixed and matched so please keep selections consistent when selecting lift arrangement, cooling package and steering system.

OPERATION AND MAINTENANCE MANUAL

- English version (select language group)
- Spanish version

TIRES

- Consult your Cat dealer for current options

Notes

993K Wheel Loader

For more complete information on Cat products, dealer services,
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See your Caterpillar dealer for available options.

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