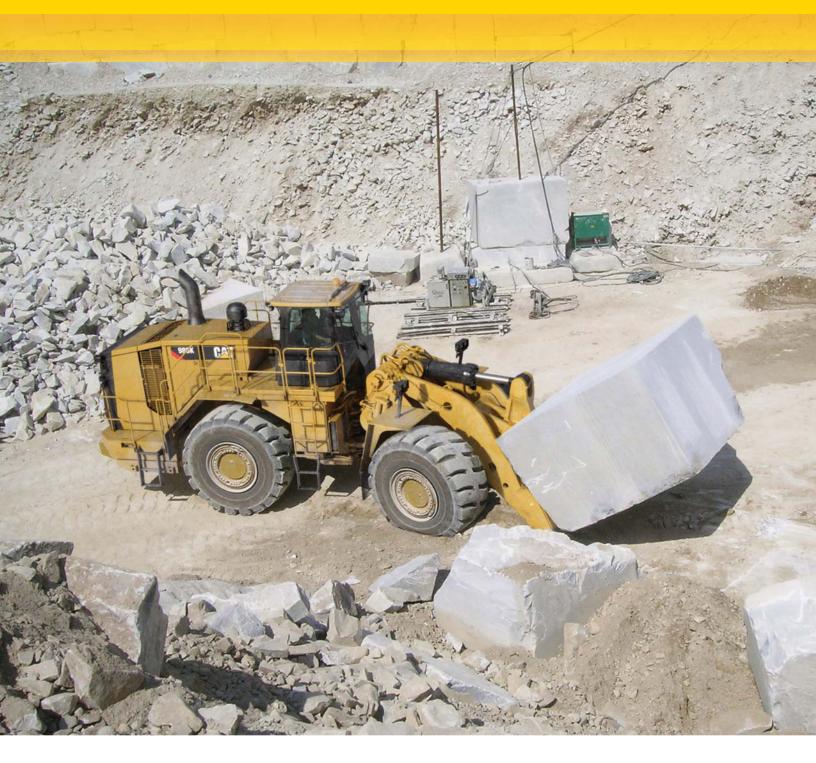
# 988K Block Handler





### Engine

Engine Model Emissions

Gross (ISO 14396) Net Power – SAE J1349 Cat<sup>®</sup> C18 ACERT™ U.S. EPA Tier 4 Final/EU Stage IV, Tier 2 Equivalent 432 kW 580 hp 403 kW 541 hp

# Operating Specifications

Operating Weight

61 508 kg

135,602 lb

Lower your operating costs with industry leading efficiency.



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Introduced in 1963, the 988 has been the industry leader for 50 years. Focused on helping our customers succeed, we have continued to build upon each new series. The 988K continues our legacy of reliability, performance, safety, operator comfort, serviceability, and efficiency.

The Cat 988K Block Handler was designed to withstand the demanding and harsh environment of block handling applications. The features of the 988K Block Handler work together to provide a durable and reliable machine to meet your block handling needs.

# **Efficiency** Delivering fuel efficiency you demand through integrated machine systems.



## **Economy Mode**

Enabling maximum productivity and efficiency, all day every day.



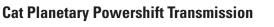
The 988K systems work hard to save you fuel through advanced technologies. Utilizing On Demand Throttle, operators maintain normal operation with the left pedal and implements while the 988K manages the engine speed.

- Provides similar control and feel to our traditional throttle lock feature.
- Efficiency of manual throttle and the ergonomics of throttle lock.
- Reduced fuel consumption by up to 20% compared to the 988H.

# Cat<sup>®</sup> C18 ACERT Engine

The Cat C18 ACERT engine is built and tested to meet your most demanding applications while meeting U.S. EPA Tier 4 Final/ EU Stage IV, 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.



Featuring all new Advanced Productivity Electronic Control Shifting (APECS) transmission controls provides greater momentum on grades and fuel savings by carrying that momentum through the shift points.

# 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

## **Counterweight**

The 988K Block Handler delivers stability and durability with an optimized counterweight for block handling applications.

## **High Rimpull Power Train**

The 988K Block Handler is capable of moving the heaviest blocks out of your quarry pit. The high rimpull power train features a torque converter and transmission specially designed for this application to maximize rimpull.

## **Quick Coupler Activation**

The Block Handler includes an additional hydraulic valve with the Quick Coupler, allowing the operator to switch work tools and immediately lock the work tool during load and carry applications.

## **Larger Tilt and Lift Cylinders**

The 988K Block Handler comes equipped with larger tilt and lift cylinders on the linkage that help improve load control and ensure safe and long lasting operation.

## **Ride Control**

Ride control works by using an accumulator to dampen the linkage motion, acting as a shock absorber. It provides the operator with a smoother ride over rough terrain, enabling a more comfortable ride at higher speeds.









## **Optimized Z-bar Linkage**

- Linkage layout designed to maximize lift capability in block handling application.
- High load stresses are absorbed by solid steel lift arms.
- Enhanced strength in key pin areas through the use of one piece castings.
- Stress released lift arms increase durability and lengthen time to repair.





## 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 that utilize Advanced Productivity Electronic Control Strategy (APECS).
- Long life and reliability through heat treat gear and metallurgy.
- Four forward and three reverse speeds to match your application.

## **Cat C18 ACERT Engine**

Durability and efficiency at the heart of your 988K comes from the Cat C18 ACERT Engine. Optimum performance is built in through the use of a 6 cylinder, four-stroke 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.
- Designed to meet U.S. EPA Tier 4 Final/EU Stage IV, Tier 2 Equivalent 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**

with Gall

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 1,400 engine rpm enabled by flow sharing technology.

# **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 988K's load sensing hydraulic steering system.

- Increase efficiency with our variable displacement piston pumps.
- Enhance operator comfort with integrated steering and transmission control functions.

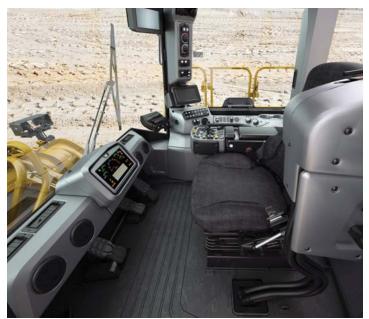
# **Filtration System**

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.

# **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 71 dB(A).
- Convenient floor storage tray/lunch box.



# **Operator Station** Best-in-class operator comfort and ergonomics.





The 988K electronic systems have been completely integrated to function as one machine. This integration creates a smart machine and more informed operator, maximizing the productivity of both.

## Cat Product Link™

Cat Product link allows remote monitoring of equipment to improve overall fleet management effectiveness. Events and diagnostic codes, as well as hours, fuel, idle time and other information are transmitted to a secure web based application, VisionLink<sup>®</sup>. VisionLink includes powerful tools to convey information to users and dealers, including mapping, working and idle time, fuel level and more.

## VIMS<sup>™</sup> 3G

We have worked hard to help our customers and operators perform at their best through our Vital Information Management System (VIMS 3G).

- Easy-to-view graphical information display features a large touch screen interface.
- Intuitive operation and easy navigation with our enhanced user interface.
- Decrease service time by keeping operators informed about machine system malfunction or operation.

# **Serviceability**

# Enabling high uptime by reducing your service time.

# We can help you succeed by ensuring your 988K 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 spilling potential environmental contaminants.
- 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.

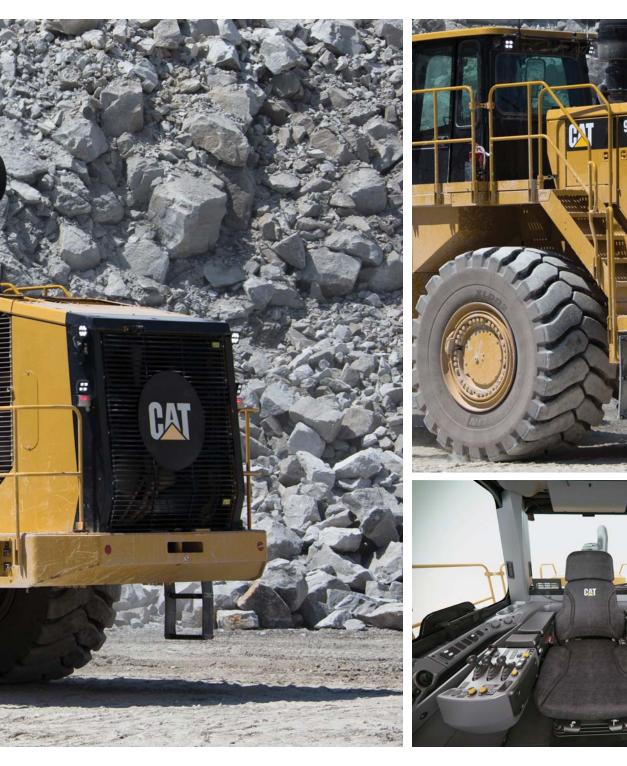
# **Safety** Making your safety our priority.



We are constantly improving our products in an effort to provide a safe work environment for the operator and those who work on your job site.

## **Machine Access**

- Left and right hand stairs with 45 degree angle enhance safety for operators getting on and off the 988K.
- 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.



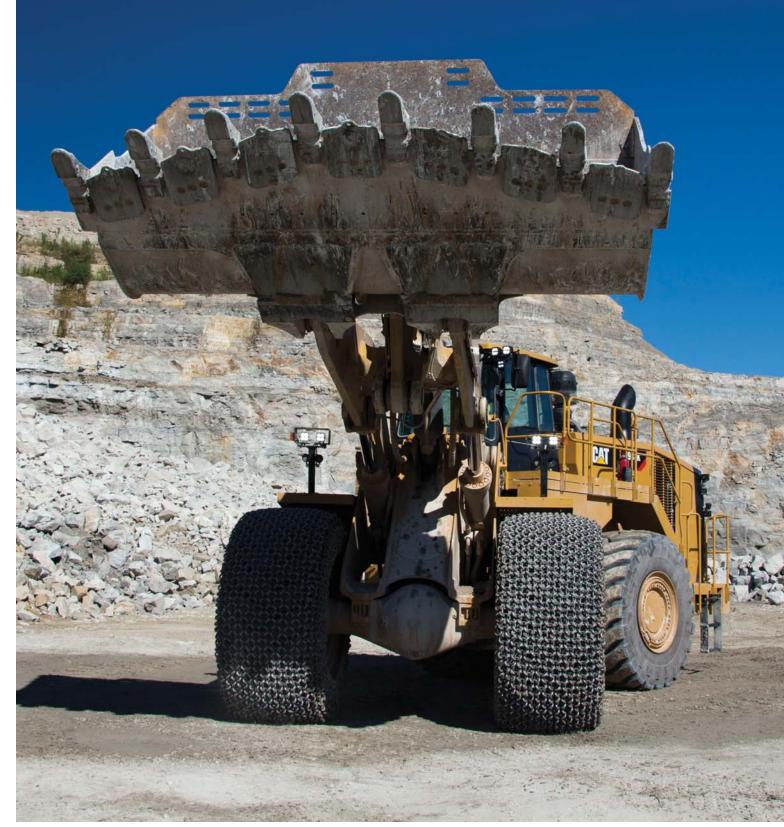
## Visibility

- Optional heated mirrors allow good visibility for safe operation in inclement weather.
- 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.
- Standard 76 mm (3 in) seat belts on the operator seat.

# **Versatility** Work tool options to meet your needs.



# 1 Quick Coupler

The quick coupler is designed for optimal utilization of lifting and break-out forces with Cat cylinder, safety valves, pressure and isolating valves, safety covers and lock indicators. It has enhanced visibility and has been optimized for handling large rocks and blocks.

# <sup>2</sup> Breaker Tine

Center-mounted, heavy-duty single-piece forged fork tine is used for prying loose large stone blocks. It is built with an extra thick tine to handle a variety of materials in this demanding application.

# **3** Forks

Heavy-duty pallet forks are engineered to handle weight and load stress when maneuvering and placing blocks in quarry operations. Dual tine forks are designed to allow blocks to be placed close to the machine for greater balance and safe handling.

# (4) Clearing Rake

Used primarily for clearing and controlling loose objects at the quarry face and working levels, the block handling rake is designed with a curved boom for enhanced operator visibility and object placement.

# **5** Rock Bucket

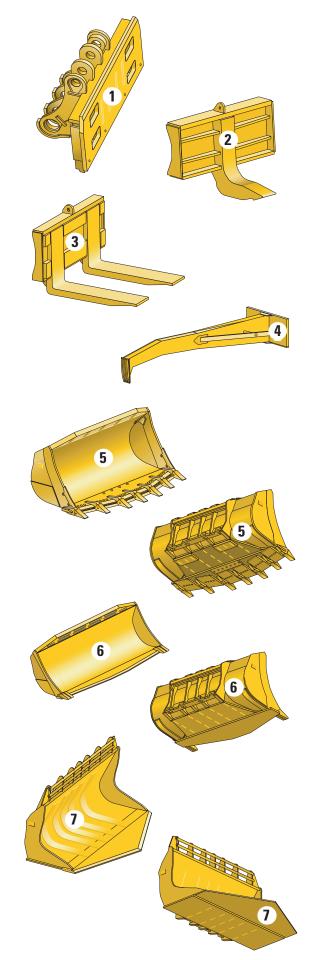
Heavy-duty bucket offers superior durability, protection and performance in rock and overburden operations in block quarries. It includes large size teeth and segments. Its HD400 (high wear resistant) metal shell and bottom offer maximum strength, durability and wear life.

# 6 Marble Bucket

Special bucket construction including the HD400-metal shell and bottom help the bucket effectively load large blocks and boulders while maintaining durability. The corner teeth ease block tilting and handling. The heavy-duty V-edge is particularly suited for handling high-value breakable marbles before cutting operations.

# I Block Bucket Heavy-Duty

Special bucket construction loads very large squared blocks and boulders. The deep carved sides and extra long heavy-duty bottom allow the special V-edge to penetrate under large blocks. The interior bucket profile allows blocks to further fit back in the bucket for increased load and lift capabilities and better balance and rack-back. Its HD400-metal shell and bottom offers maximum strength, durability and wear life.



# 988K Block Handler Specifications

Engine			
Engine Model	Cat C18 ACERT		
Emissions	U.S. EPA Tier 4 Final/ EU Stage IV, Tier 2 Equivalent		
Rated Speed	1,700 rpm		
Peak Power Speed	1,500 rpm		
Gross – ISO 14396	432 kW	580 hp	
Gross – SAE J1995	439 kW	588 hp	
Net Power – SAE J1349	403 kW	541 hp	
Bore	145 mm	5.7 in	
Stroke	183 mm	7.2 in	
Displacement	18.1 L	1,105 in <sup>3</sup>	
Peak Torque @ 1,200 rpm	2852 N·m	2,104 lbf-ft	
Torque Rise	58%		

# **Operating Specifications**

Operating Weight

61 508 kg 135,602 lb

Transmission		
Transmission Type	Cat planetar	y power shift
Forward 1	5.8 km/h	3.6 mph
Forward 2	10.3 km/h	4.5 mph
Forward 3	18.3 km/h	11.4 mph
Forward 4	30.5 km/h	19 mph
Reverse 1	6.6 km/h	4.1 mph
Reverse 2	11.8 km/h	7.3 mph
Reverse 3	20.8 km/h	13 mph
Direct Drive Forward 1	Lock-up dis	abled
Direct Drive Forward 2	10.8 km/h	6.7 mph
Direct Drive Forward 3	19.2 km/h	11.9 mph
Direct Drive Forward 4	34 km/h	21 mph
Direct Drive Reverse 1	6.9 km/h	4.3 mph
Direct Drive Reverse 2	12.4 km/h	7.7 mph
Direct Drive Reverse 3	22 km/h	13.7 mph

• Travel speeds based on 35/65-R33 tire.

# 988K Block Handler Specifications

nyulaulie System – Lity Int			
Lift/Tilt System – Circuit	Pilot operated – EH control, flow sharing		
Lift/Tilt System	Variable displacement piston		
Maximum Flow at 1,400-1,860 rpm	580 L/min	153 gal/min	
Relief Valve Setting – Lift/Tilt	32 800 kPa	4,757 psi	
Cylinders, Double Acting: Lift, Bore and Stroke	235 mm × 976 mm	9.3 in × 38.4 in	
Cylinders, Double Acting: Tilt, Bore and Stroke	291 mm × 671 mm	11.5 in × 26.4 in	
Pilot System	Variable disp piston	placement	
Maximum Flow @ 1,700 rpm	52 L/min	13.7 gal/min	
Relief Valve Setting	3800 kPa	551 psi	

## **Hydraulic Cycle Time**

Hydraulic System – Lift/Tilt

Rack back	4.5 Seconds
Raise	8.0 Seconds
Dump	2.2 Seconds
Lower Float Down	3.5 Seconds
Total Hydraulic Cycle Time (empty bucket)	18.2 Seconds

## Hydraulic System – Steering

Steering System – Circuit	Pilot, load sensing		
Steering System – Pump	Piston, variable		
	displacement		
Maximum Flow	280 L/min 74 gal/min		
Relief Valve Setting – Steering	32 000 kPa 4,641 psi		
Total Steering Angle	86°		
Steering Cycle Time (high idle)	3.4 sec		
Steering Cycle Time (low idle)	5.6 sec		

# **Service Refill Capacities**

Fuel Tank	712 L	188.1 gal
Cooling System	120 L	31.7 gal
Crankcase	60 L	15.9 gal
Diesel Exhaust Fluid Tank	33 L	8.7 gal
Transmission	120 L	31.7 gal
Differentials and Final Drives – Front	186 L	49.1 gal
Differentials and Final Drives – Rear	186 L	49.1 gal
Hydraulic System Factory Fill	475 L	125.5 gal
Hydraulic System (tank only)	240 L	63.4 gal

• All non-road Tier 4 Final/Stage IV, and Japan (MLIT) Step 4 diesel engines are required to use:

- Ultra Low Sulfur Diesel (ULSD) fuels containing 15 ppm (mg/kg) sulfur or less. Biodiesel blends up to B20 are acceptable when blended with 15 ppm (mg/kg) sulfur or less ULSD and when the biodiesel feedstock meets ASTM D7467 specifications.

 Cat DEO-ULS<sup>™</sup> or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specifications are required.

- Diesel Exhaust Fluid (DEF) that meets ISO 22241-1 requirements.

### **Axles**

Front	Fixed
Rear	Trunnion
Oscillation Angle	13°

### **Brakes**

Brakes

SAE J1473 OCT90, ISO 3450:1992

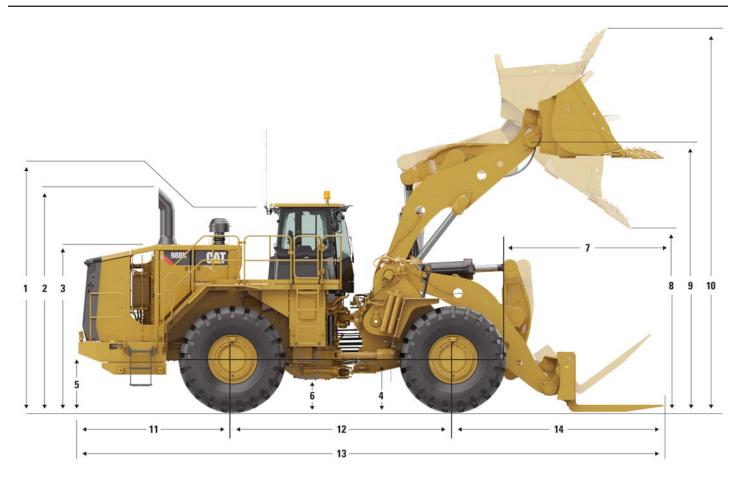
### **Sound Performance**

	Standard	Suppression
Interior Sound Level	71 dB(A)	70 dB(A)
Exterior Sound Level	111 dB(A)	109 dB(A)

# 988K Block Handler Specifications

# Dimensions

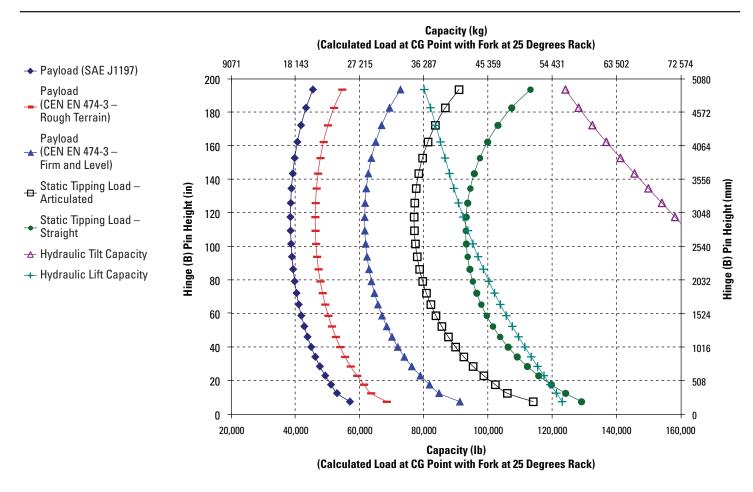
All dimensions are approximate.



	Quick C and 6.9 m³ (9.0		Quick C and F	•
1 Ground to Top of ROPS	4187 mm	13.7 ft	4214 mm	13.8 ft
<b>2</b> Ground to Top of Exhaust Stacks	4498 mm	14.8 ft	4221 mm	13.8 ft
<b>3</b> Ground to Top of Hood	3334 mm	10.9 ft	3334 mm	10.9 ft
4 Ground to Center of Front Axle	978 mm	3.2 ft	978 mm	3.2 ft
<b>5</b> Ground to Bumper Clearance	933 mm	3.1 ft	933 mm	3.1 ft
<b>6</b> Ground to Lower Hitch Clearance	568 mm	1.9 ft	568 mm	1.9 ft
7 Reach at Maximum Lift	2765 mm	9.1 ft		
8 Clearance at Maximum Lift	3449 mm	11.3 ft		
<b>9</b> B-Pin Height at Maximum Lift	4918 mm	16.1 ft	4918 mm	16.1 ft
<b>10</b> Maximum Overall Height, Bucket Raised	6815 mm	22.4 ft	_	
<b>11</b> Rear Axle Center Line to Bumper	3187 mm	10.5 ft	3187 mm	10.5 ft
12 Wheelbase	4550 mm	14.9 ft	4550 mm	14.9 ft
<b>13</b> Maximum Overall Length with Forks on the Ground	11 938 mm	39.2 ft	12 149 mm	39.9 ft
14 Front Axle Centerline to Bucket Tip	4201 mm	13.8 ft	4467 mm	14.7 ft

## **Load Capacity Curves**

L5 Tires, Fork at 25 degree Rack Angle, 1810 mm (71") Tine, Block Handler Quick Coupler and Block Handler Fork.



### NOTE:

Static tipping loads and operating weight are based on the following loader configuration: L5 Bridgestone bias tires, air conditioning, ride control, power train guard, full fluids, fuel tank, coolant, lubricants, and operator.

Specifications and ratings conform to the following standards: SAE\* J1197, SAE J732, CEN\*\* EN 474-3.

The rated operating load for a loader equipped with a pallet fork is determined by:

SAE J1197: 50% of full turn static tipping load or hydraulic limit.

CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.

CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

\*SAE – Society of Automotive Engineers

\*\*CEN - European Committee for Standardization

# **Operating Specifications**

For machines equipped with Bridgestone 42 PR bias tires with 6.55 bar (95 psi) pressure.

			ndler Tires: 35/65-R3	33 SLR: 978 mm
Dualeat Time			Handler	
Bucket Type		Rock	Rock	Fork
Ground Engaging Tool		K130	K131	
Cutting Edge Type		Spade	Spade	-
Bucket Part Number	2	418-0080	418-0090	418-0070
Struck Capacity	m <sup>3</sup> yd <sup>3</sup>	5.5 7.2	5.2 6.8	-
Heaped Capacity (Rated)	m <sup>3</sup> yd <sup>3</sup>	7 9.2	6.6 8.6	
Bucket Width	mm ft	3940 12.9	4020 13.2	
Dump Clearance at Full Lift and Full Dump Angle (Segment)	mm ft	3449 11.3	3316 10.9	
Dump Clearance at Full Lift and Full Dump Angle (with Teeth)	mm ft		3144 3316	
Reach at Lift and Full Dump Angle (Segment)	mm ft	2765 9.1	2910 9.5	
Reach at Lift and Full Dump Angle (with Teeth)	mm ft		3132 3316	
Reach with Lift Arms Horizontal and Bucket Level (Segment or Teeth)	mm ft	3926 12.9	4399 14.4	
Digging Depth (Segment)	mm in	150 5.9	185	
Overall Length (Bucket Level Ground)	mm ft	11 938 39.2	12 436 40.8	12 149 39.9
Overall Height with Bucket at Full Raise	mm ft	6815 22.4	6815 22.4	
Loader Clearance Turning Radius (SAE Carry)	mm ft	8714 28.6	8834 29.0	7789 25.6
Full Dump Angle	degrees	-32	-32	
Static Tipping Load – Straight (Rigid Tire)	kg lb	52 887 116,597	51 384 113,281	43 217 95,277
Static Tipping Load – Straight (Tire Squash)	kg lb	50 417 111,150	48 893	42 176 92,982
Static Tipping Load – Full Turn (Articulated 35°) (Rigid Tire)	kg lb	46 933 103,470	45 488 100,283	38 471 84,815
Static Tipping Load – Full Turn (Articulated 35°) (Tire Squash)	kg lb	42 719 94,179	42 166 92,960	35 513 78,293
Static Tipping Load – Full Turn (Articulated 43°) (Rigid Tire)	kg lb	44 043 97,098	42 625 93,972	36 168 79,736
Static Tipping Load – Full Turn (Articulated 43°) (Tire Squash)	kg lb	39 384 86,827	37 963 83,694	32 945 72,631
Breakout Force	kN lbf	432 97,093	388 87,201	
Operating Weight	kg lb	63 381 139,730	64 106 141,329	61 508 135,602
Weight Distribution at SAE Carry (Unloaded)		,,,,,,,,	,525	155,502
Front	kg lb	27 312 60,212	28 732 63,342	24 338 53,656
Rear	kg lb	36 069 79,518	35 374 77,987	37 170 81,946

25 degree fork angle for tipping loads with 418-0070 forks.

## **Standard Equipment**

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

### ELECTRICAL

- Alarm, back-up
- Alternator, single 150 amp
- Batteries, dry
- Converter, 10/15 amp, 24V to 12V
- Lighting system (halogen, work lights, access and service platform lighting)
- Starting and charging system, 24V
- Starter emergency start receptacle
- Starter lockout in bumper
- Transmission lockout in bumper

### **OPERATOR ENVIRONMENT**

- Graphical Information Display, displays real time operating information, performs calibrations and customizes operator settings
- Air conditioner
- Cat Detect Vision, rear vision camera system
- Cab, sound suppressed and pressurized, integrated rollover protective structure (ROPS/FOPS) radio ready for entertainment, includes antenna, speakers and converter (12-volt 5-amp) and power port
- Controls, lift and tilt function
- Heater, defroster
- Horn, electric
- Instrumentation, gauges
- Coolant temperature
- Engine hour meter
- Hydraulic oil temperature
- Power train oil temperature
- Light, cab, dome
- Lunchbox, beverage holders
- Mirrors, rearview (externally mounted)
- Rimpull Control System
- Seat, Cat Comfort (cloth), air suspension, six-way adjustable
- Seat belt, retractable, 76 mm (3 in) wide
- STIC Control System
- UV glass
- Transmission gear indicator
- Vital Information Management System (VIMS) with Graphical Information Display: External Data Port, Customizable Operator Profiles, Cycle Timer, Integrated Payload Control System
- Wet-Arm wipers/washers (front and rear)
- Intermittent front and rear wipers
- Lights, directional

### **POWER TRAIN**

- · Brakes, oil-cooled, multi-disc, service/secondary
- Case drain screens
- Crankcase guard
- Electro hydraulic parking brake
- Engine, C18 MEUI diesel, turbocharged/aftercooled
- Ground level engine shutoff
- Turbine precleaner, engine air intake
- Radiator, Next Generation Modular (NGMR)
- Starting aid, ether, automatic
- Throttle lock, electronic
- Torque converter, Impeller Clutch (ICTC) with Lock up clutch (LUC), Rimpull Control System
- Transmission, planetary powershift, 4F/3R electronic control

### OTHER

- Automatic bucket lift kickout/positioner
- · Base machine price includes a rim allowance
- Hydraulically driven demand fan
- Couplings, Cat O-ring face seals
- Doors, service access (locking)
- Ecology drains for engine, radiator, hydraulic tank
- Fuel tank, 731 L (188 gal)
- Hitch, drawbar with pin
- Hoses, Cat XT™
- Hydraulic, steering and brake filtration/screening system
- Cat Clean Emission Module
- Oil sampling valves
- Premixed 50% concentration of extended life coolant with freeze protection to  $-34^{\circ}$  C (-29° F)
- Rear access to cab and service platform
- Steering, load sensing
- Toe kicks
- Vandalism protection caplocks

## **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
- Payload Control System (PCS)

### **OPERATOR ENVIRONMENT**

- Cab precleaner
- AM/FM/CD/MP3 radio
- Satellite Sirius radio with bluetooth
- LED warning strobe
- CB radio ready
- Window pull down visor

### **MISCELLANEOUS ATTACHMENTS**

- Front and rear roading fenders
- Fast fill fuel system (Shaw-Aero)

# 988K Mandatory Attachments

### **Mandatory Attachments**

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

#### LINKAGE

- Standard with two valves
- Standard with three valves
- High Lift with two valves
- High Lift with three valves
- 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
- Standard engine air turbine precleaner
- Dual stage precleaner
- No engine brake
- Engine brake

#### LIGHTING

- Standard lighting
- HID lighting
- LED lighting

#### **OPERATOR ENVIRONMENT**

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

#### HYDRAULICS

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

#### **FUEL SYSTEM**

- · Conventional fuel arrangement
- Cold weather starting

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **www.cat.com** 

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AEHQ7219 (02-2014)

