

988H

Wheel Loader

CAT[®]



Cat[®] C18 Engine with ACERT[™] Technology

Net Power (ISO 9249) at 1800 rpm 373 kW/507 hp

Bucket Capacities 6.3 to 7.0 m³

Operating Weight 49 550 kg

Rated Payload 11 400 kg

988H Wheel Loader

Improved performance and rugged durability combine with operator comfort for maximum productivity.

Structures and Fabricated Box Boom

The articulated frame design features a high-torsion, compact, load-absorbing, front frame and a large, box-section, engine-end frame. Fabricated boom and linkage geometry increase dump clearance, provide improved breakout and lift forces and increase the viewing area to the bucket corners. **pg. 4**

Power Train

- ✓ The Cat® C18 engine with ACERT™ Technology is EU Stage IIIA compliant. The Cat transmission and impeller clutch torque converter offer smooth, consistent shifting with fingertip control. Electronic controls help increase productivity. **pg. 6**

Hydraulics and Electronic Monitoring

Innovative electro-hydraulics play a key role in performance of the 988H and provide low operator effort. Increased hydraulic efficiency improves lift and tilt cycle time for reduced overall cycle time. The tradition of reliable, high-performance Caterpillar hydraulics continues. **pg. 8**

Application Truck Match

Increased performance and good pass matching make the 988H a versatile performer. **pg. 14**

Maintenance and Serviceability

Most daily maintenance checks are performed from the machine's left side, facilitating quick start up. Case drain filters for main hydraulic, steering and fan pumps protect against contamination, and remote pressure taps contribute to improved serviceability. Easy access to major components enhance serviceability and increase uptime. **pg. 15**

***Revolutionary design, Caterpillar® quality.** Electro-hydraulic controls, increased power and torque rise on all new front linkage and unmatched operator comfort work together for increased performance and added durability to make the 988H an innovative, 21st century large wheel loader geared for maximum production in the toughest condition.*



✓ *New Feature*

Operator Station

Experience a new level of efficiency, comfort and productivity with one-hand STIC operation, a large cab, low-effort, fingertip lift and tilt controls, improved visibility, reduced sound levels, improved ventilation and easier entry and exit. **pg. 10**

Buckets and Ground Engaging Tools

Choose between 6.3 m³ and 7.0 m³ capacity buckets, spade edge and straight edge buckets and various Ground Engaging Tools to match job conditions. Cat buckets retain the proven shell-tine construction design for unmatched durability. **pg. 12**

Bucket Match

Improve machine performance and increase stability by selecting the right bucket for your application and material density. **pg. 13**

Customer Support

Your Cat dealer offers a wide range of services that help you operate longer with lower costs. **pg. 16**



Structures and Fabricated Box Boom

Superior design of structures, along with the bold, box-section front linkage provide superior strength.



Structures. Combine the use of robotic welding and castings in critical high-stress areas. More than 90 percent of the 988H structure is robotically welded to provide highly consistent welds and increased strength. Castings are also used in several areas to increase strength by helping to spread the loads and reduce the number of parts.

1 Full Box-Section Frame. Has been redesigned for maximum strength and minimum weight. The frame rail is now extended further forward, improving rail to hitch strength.

2 Box-Shaped Tower. Is designed for improved resistance to twisting for maximum strength. The tilt cylinder tower's high-strength steel plates direct stress down to the lift cylinder cast mounting tube, absorbing impact and loading forces. This design results in a narrower tower which gives better operator visibility.

3 Upper and Lower Hitch-Pins.

Pivot on double-tapered roller bearings. The hitch plates are shaped to direct stress away from the end of the weld, resulting in a smoother transition of stress loads into the frame.

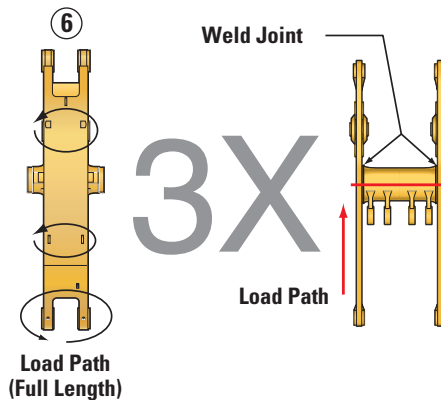
4 Spread-Hitch Design. Increases the spread 26 percent to help square-up the frame and provide increased clearance for access to the hitch and hydraulic lines.

5 Steering Cylinder Mounts. Are located on the axle pads providing efficient transfer of steering loads to the axle.

6 Fabricated Box Boom. Replaces the traditional steel plate lift arms found on wheel loaders. This design features forked ends for easier service, faster assembly and increased reliability. Castings in high stress areas smooth the transition of stress distribution for excellent service life. The boom and dual bucket links work together for increased breakout force, better torsional resistance and higher lift capacity.

Fabricated Boom Box-Section Design.

Has more torsional stiffness than a Z-bar design. With the parallel lift arm design, corner loading the bucket sends stresses up the lift arm, through the cross tube welding and up the other lift arm. The box-section design spreads stresses over the full length and perimeter of the boom, allowing stress transfer through parent material. This resists twisting and prevents stress paths that can lead to cracking.



Power Train

Cat power train delivers top performance and durability in tough applications. Changes to the aftercooler, injectors, bearings and pistons help improve startability, response, power, emissions and fuel consumption.



1 Cat C18 Engine with ACERT Technology. It is EU Stage IIIA compliant. It features increased horsepower and efficient fuel management for quick response, high productivity and exceptional service life. A new, sculptured cylinder block provides greater strength and lighter weight.

988H Fuel Management System.

The Cat 988H Wheel Loader Fuel Management System delivers solid productivity and fuel savings of as much as 15 percent in truck loading and more in load in carry operations. By lowering engine speed during all but the digging portion of each cycle, the proprietary system minimizes impact on productivity while gaining significant fuel savings. For maximum flexibility, the system offers three different operating modes: full power, balanced and maximum fuel savings.

The system allows the operator to quickly adjust to changing production demands by moving a single switch mounted in the cab.

Mechanically Actuated, Electronic Unit Injection (MEUI). Proven high-pressure, direct injection fuel system electronically monitors operator demands and sensor inputs to optimize engine performance.

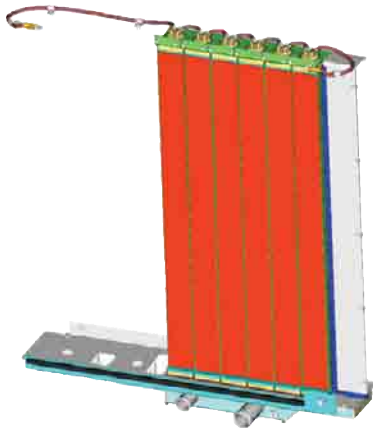
Air Cleaners. Are dry-type radial seal with primary and secondary elements and precleaner.

Advanced Diesel Engine Management System (ADEM™ IV).

Controls the fuel injector solenoids to monitor fuel injection. This system provides automatic altitude compensation, air filter restriction indication and will not allow the engine to fire until it has oil pressure, acting as a cold start protection and a form of pre-lube.

Air-to-Air Aftercooler (ATAAC).

Provides a separate cooling system for the intake manifold air. The ATAAC system routes hot compressed air from the turbo and cools it with a single pass, air-to-air aluminum heat exchanger. The cooled compressed air greatly reduces the emissions produced, meeting Stage III requirements.



Next Generation Modular Radiator (NGMR). Improves cooling capabilities by using a parallel flow system with six cores. Serviceability is improved with NGMR since there is no top tank to remove.

2 Separate Engine Cooling System.

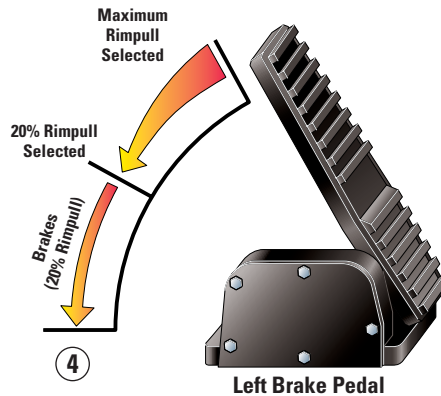
Isolates the radiator and fan from the engine compartment for more efficient cooling and allows for a sloped hood for increased viewing area.

3 Electronically Controlled Cat Planetary Power Shift Transmission.

Features perimeter-mounted, large diameter clutch packs that control inertia for smooth shifting and increased component life.

4 Impeller Clutch Torque Converter (ICTC). Combined with the Rimpull Control System (RCS) allows the operator maximum flexibility in modulating rimpull.

- Calibration procedure improved.
- Left pedal modulation improved.
- Wear compensated for by providing the ability to recalibrate for optimum left pedal modulation regardless of torque converter wear.
- Left brake pedal modulates rimpull from 100 to 25 percent for reduced tire slippage and wear. After 25 percent is achieved, further pedal travel applies the brake.



- RCS allows operator to select from four preset maximum rimpull settings, other than 100 percent, that are available in first gear (90, 80, 70 and 60 percent).
- A lock-up clutch torque converter provides direct drive efficiency. Translates into improved fuel efficiency in certain applications.

5 Heavy-Duty Axles. Feature optional axle oil coolers, permanently lubed universal joints and stronger axle components in both the differentials and final drives for increased performance, serviceability and durability. Conventional differential is standard.

6 Axle-Shaft, Oil Disk Brakes.

Are adjustment-free, fully hydraulic and completely sealed. Disc face grooves provide cooling even when brakes are applied, for a long, fade-resistant service life.

- Location of the brakes improves serviceability. The axle-shaft brake design allows brake service while leaving the final drive intact.
- Axle-shaft brakes require less force by operating on the low torque side of the axle. Combined with improved axle oil circulation for increased cooling, the oil-enclosed, multiple-disc brake design improves durability.
- Parking brake is spring-applied, oil-released and dry disc. It is mounted on the transfer gear output shaft. Manual override is possible to allow movement of the machine.

Free-Floating Axle Shafts. Can be removed independent of the wheels and planetaries for quick and easy serviceability.

Optional Axle Oil Cooling System.

Features two circuits that circulate oil from the differentials through an oil-to-air cooler and filter and back to the brakes. This system provides increased oil life and improves component performance and durability. The system automatically turns on and off at a preset oil temperature.

Demand Fan. The Cat C18 electronic engine continuously gathers information to control the demand fan speed and provides constant net horsepower regardless of operating conditions. This compensates for varying fan loads and enables the machine to maintain normal system temperatures and reduce fuel consumption.

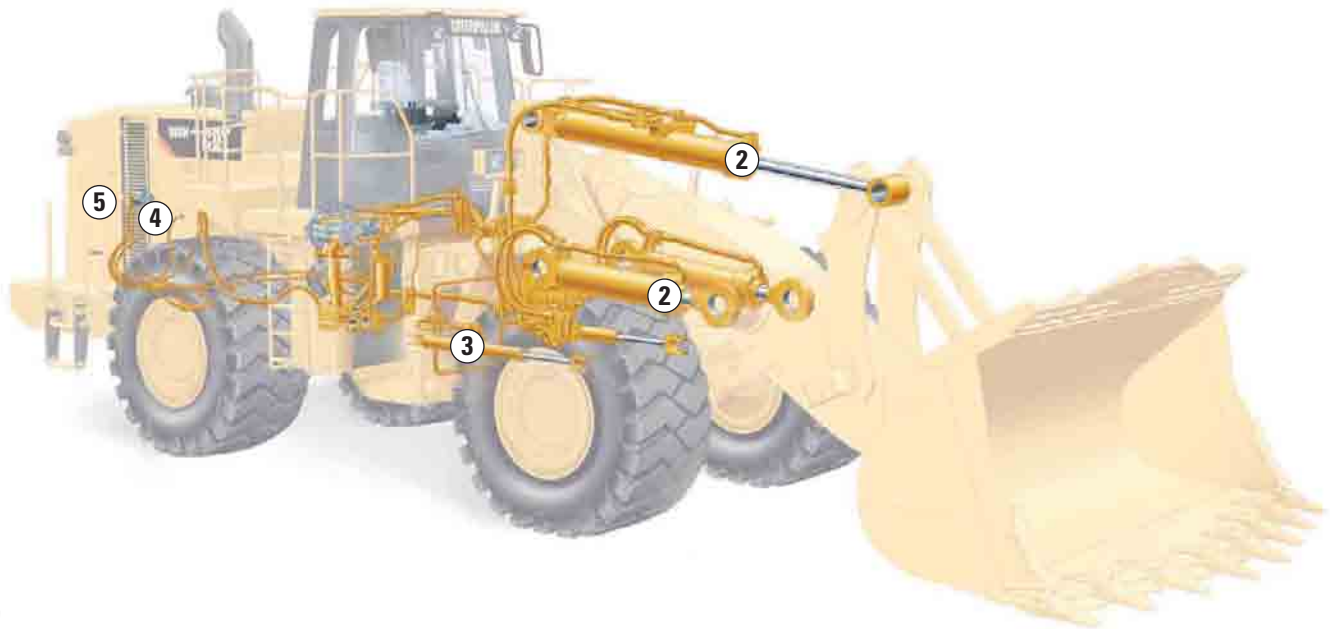
Final Drives. Feature planetary reduction at each wheel. Torque is developed at the wheel, which offers less stress at the axle shafts. The planetary units can be removed independently from the wheels and brakes.

Secondary Brakes. Are fully modulated and the front and rear service brake circuits are isolated so one circuit can operate if pressure drops in the other circuit.

Service Brakes. Are four wheel, hydraulic, oil-dipped multiple disc brakes that are adjustment-free, completely enclosed and allow modulated engagement without slack adjusters.

Hydraulics and Electronic Controls

Efficient, well-balanced hydraulics and low-effort electronic controls mean high performance and exceptional durability.



1 Electro-Hydraulic Control System. Increases hydraulic efficiency and enhances operator comfort through low-effort, fingertip controls. XT-3™ and XT-5™ hose along with reliable components reduce the risk of leaks and blown lines, helping protect the environment.

2 Lift and Tilt System. Consists of larger bore lift and tilt cylinders and a two position main hydraulic pump contributing to increased performance and serviceability.

3 Load Sensing Steering. With the STIC control system integrates steering and transmission into a single controller. STIC operated pilot valve controls the flow to steering cylinders. The steering system utilizes a variable displacement pump for maximum machine performance by directing power through the steering system only when needed.

4 Case Drain Filtration. A total of three filters for the main hydraulic, steering and fan pumps protect against contamination with easy access for service.

5 Demand Fan. A speed controlled, hydraulic fan that provides maximum cooling efficiency by directing the appropriate amount of power through the fan system based on coolant temperature (ambient conditions).

Two Position Main Hydraulic Pump.

Is controlled by the Electronic Control Module (ECM). A solenoid valve controls the pump displacement, allowing the ECM to adjust hydraulic flow during the loader cycle. This strategy results in faster hydraulics and greater lift forces leading to optimized performance.

Advanced Electronics. Play a major role in the operation of the 988H. Productivity improvements, enhanced serviceability, increased operator efficiency and lower costs are direct benefits of the 988H advanced electronics.



6 Caterpillar Monitoring System (EMS-III).

Continually monitors various machine systems through three instrument clusters and provides a three-level warning system to alert the operator of immediate or pending problems. It shares information with the engine, hydraulic and transmission controls that can be used during servicing to simplify service and troubleshooting. The Caterpillar Monitoring System also allows for new software to be uploaded directly to the cab.

Optional Payload Control System.

Tracks data regarding the load in the bucket. It also features a numeric keypad and easy-to-view display. An available printer makes onboard ticket printing possible.

Optional Ride Control. Provides a boom suspension system by placing an accumulator in the boom circuit, reducing fore and aft pitch over rough terrain. This results in a smoother, more comfortable ride, allowing higher load and carry speeds, increased load retention and component life.

Loose Material Mode. Provides maximum hydraulic speed and efficiency for loading in easily penetrated loose material.

Operator Station

A new industry standard for comfort and efficiency.



World Class Cab. Over 3.18 m³ of volume incorporates innovations for operator comfort, maneuverability and productivity. Features include outstanding viewing area, excellent cab ventilation, interior sound levels below

77 dB(A), standard coat hook, cup holder, storage bin, intermittent wet-arm wipers, room for a large lunch cooler and radio and Cat Product Link ready.

1 STIC Control System. Combines gear selection and steering into one control lever that requires less effort and provides smooth shifting. Side-to-side motions for steering, finger operated direction control and thumb operated buttons for gear selection combine to provide a fluid motion that reduces effort and allows the operator to work the machine for long periods of time with little or no fatigue.

2 Left Pedal. Operates the impeller clutch torque converter/braking while the right pedal operates standard braking.

3 Cat Comfort Seat. Replaces the previous Contour Series Seat with more foam in key parts of the seat back, thicker seat cushions, automotive-style lumbar support and an all-new, ergonomic design translate into greater operator comfort, less fatigue and consistent productivity throughout the shift. The seat is a six-way adjustable air suspension seat with a retractable seat belt, headrest and adjustable armrests for optimal comfort and high productivity.

4 Electro-Hydraulic Controls and Armrests. Provide low effort, fingertip control for enhanced comfort and stability.

- Floor-mounted controls and armrests are fore, aft and height adjustable to accommodate operators of any size in a comfortable operating position.

5 Caterpillar Monitoring System (EMS-III). Display system provides information on the machine's major components and system.

- Gauge displays fuel tank level and temperatures for engine coolant, power train and hydraulic oil. Tachometer is an analog gauge with digital readout for gear selection and ground speed.
- Alerts operator if transmission is engaged while parking brake is applied. If pressure drops, the parking brake applies automatically.
- Main module consists of 10 fault indicators and one display panel. If any critical engine condition is detected, the engine will derate power.

Upper Left Console



Upper Right Console

6 Throttle Lock. Allows operator to pre-set the engine speed for a variety of applications, resulting in faster cycle times and increased productivity.

7 Rimpull Control System (RCS). Has four factory preset reduced rimpull settings (90, 80, 70 and 60 percent of rimpull). Reduced rimpull settings can be modified by the dealer to operator preference or to better match ground conditions.

8 Rimpull Control System (RCS) Switch. Turns RCS on and off.

9 Kickout Positioner Control. Allows the operator to set customized upper, lower and bucket dig angle kickouts for maximum operating efficiency.

10 Optional Ride Control Switch. Turns Ride Control to off or automatic position.

11 Autoshift. Allows the operator to set the maximum gear into which the transmission will be allowed to shift. This feature contributes to additional comfort and focus on the job. The switch also offers a manual position for operator controlled shifting.

12 Optional Lock-Up Clutch Torque Converter Switch. Activates the lock-up clutch for direct drive efficiency.

13 Loose Material Operating Mode. Tailors hydraulics to provide maximum loose material loading efficiency.

14 Front and Rear Window Wiper/Washers. Are within easy reach to maintain a clear field of vision.

15 Improved Viewing Area. With bonded front windshield eliminates distracting metal frames for excellent bucket and work site visibility. An internal ROPS improves peripheral viewing by eliminating the large structure outside the cab.

16 Electro-Hydraulic Lock-Out Switch. Disables hydraulic controls.

17 Optional Reversible Fan.

18 Optional Hazard Lights.

19 Optional Rotary Beacon.

20 Optional Autolube.

Buckets and Ground Engaging Tools (GET)

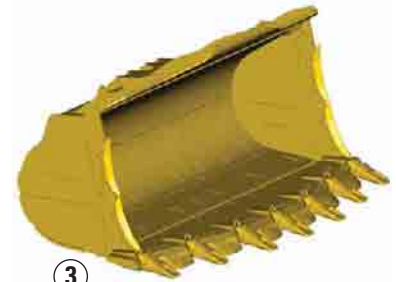
Cat buckets and Ground Engaging Tools provide the flexibility to match the machine to your application.



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Buckets. Ranging from 6.3 m³ to 7.0 m³ may be configured for a variety of impact and abrasive conditions. All buckets are built with shell-tine construction that resist twisting and distortion and feature replaceable, weld-on wear plates to protect the bottom of the bucket. The integral rock guard helps retain large loads while heavy-duty pins and retainers provide durability.

1 Spade Edge Rock Buckets. With bolt-on segments, are available in 6.4 m³ and 6.9 m³. Each accepts up to two sets of sidebar protectors, feature shouldered, double-strap adapters, easily changed bolt-on segments and several tip options.

2 Straight Edge Buckets. Are available in 6.3 m³ Straight Edge Rock and 7.0 m³ General Purpose configurations. The Straight Edge Rock bucket features double strap adapters and accepts two sets of sidebar protectors, bolt-on segments and tips. The General Purpose bucket is available with bolt-on cutting edge, bolt-on adapters or bolt-on adapters with segments.

3 High Abrasion Bucket. Is available with 6.4 m³ capacity and is recommended for use in face loading where high abrasion and moderate impact is encountered. This bucket features additional wear protection items including independently attached edge and adapter covers, additional liners and wear plates, one set of sidebar protectors and a thicker base edge.

Heavy Duty Quarry Bucket. Is available as a 6.4 m³ capacity bucket and is recommended for use in face loading where moderate abrasion and high impact is encountered. It features additional wear protection items including four sidebar protectors, thicker base edge and adapters, additional liners and wear plates and bolt-on half arrow segments.

Bucket Controls. Feature electro-hydraulic lift and tilt circuits for lower lever effort.

Lift Circuit. Has four positions: raise, hold, lower and float and can adjust automatic upper and lower kickouts from the cab.

Tilt Circuit. Features three positions: tilt back, hold and dump. It can adjust automatic bucket positioner to desired loading angle from the cab and does not require visual spotting.

Mechanically Attached Wear Plates (MAWP). Are available as a Custom attachment.

Bucket Match

Proper bucket and application match delivers increased stability and peak performance.

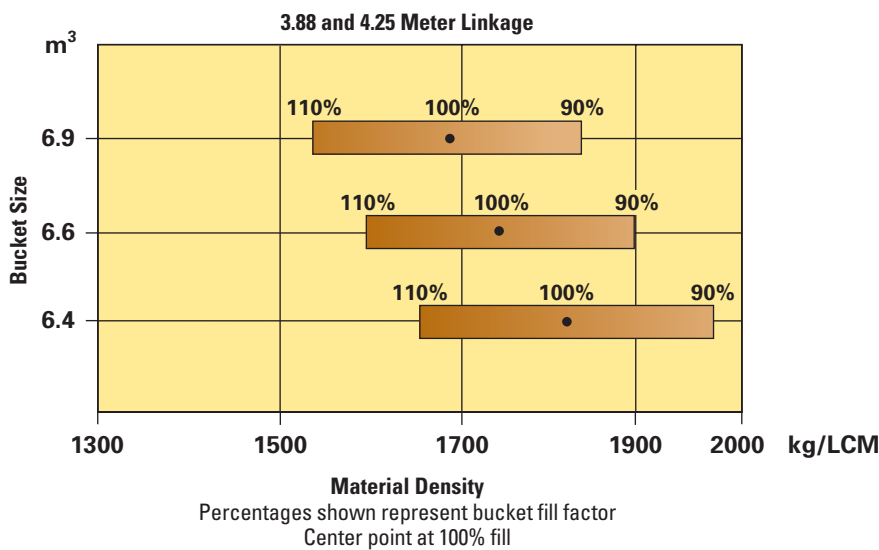
Buckets and GET. The 988H offers a variety of bucket types and available Ground Engaging Tool configurations to properly configure the machine based on material density, impact and abrasion.

Depending on your material densities, the 988H has available a 6.4 m³ Spade Nose bucket with teeth and bolt-on segments for improved performance and edge protection.

Increased full turn static tip load, horsepower and hydraulic capabilities allow the 988H to effectively utilize the 6.6 m³ and 6.9 m³ bucket size in lighter materials such as limestone. To better match your 988H to material conditions, contact Caterpillar for specialty bucket needs.



Bucket Selection Guide and Matrix



Changes in bucket weight, including field installed wear iron, can impact rated payload. Consult your Caterpillar dealer for assistance in selecting and configuring the proper bucket for the application. The Caterpillar Large Wheel Loader Payload Policy is a guideline intended to maximize wheel loader structural and component life.

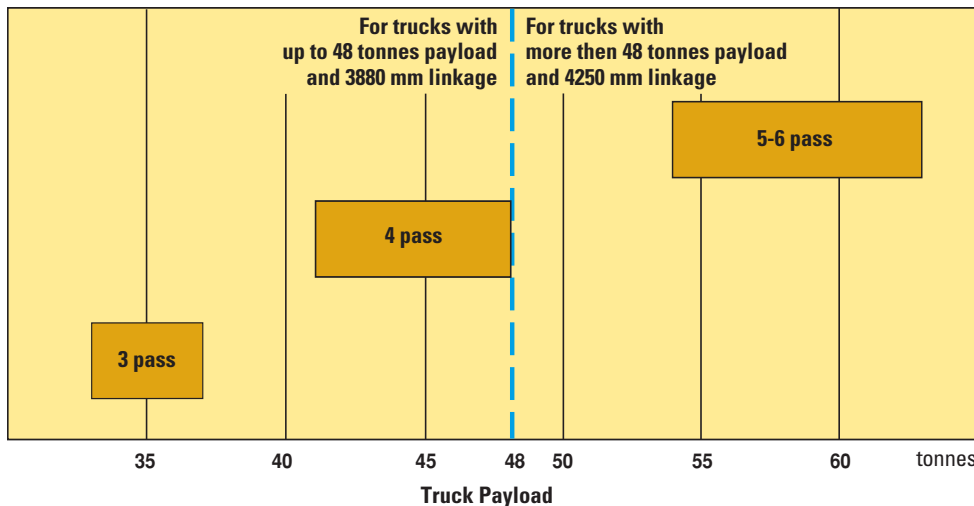
Application Truck Match

Matched payloads and matched buckets ensure optimum performance.



Performance. The 988H is an aggressive first gear loader for face and bank excavation. With increased dump clearance, the 988H can easily load 33-70 tonnes off-highway trucks. Increased performance and good pass match make the 988H a versatile performer with a cost per ton that will help your bottom line. The versatility of a material handler is designed into the machine. With balanced rimpull and hydraulics, the 988H is an aggressive loader that gets the job done quickly and efficiently in loose or stock-pile material and in load and carry work.

Large Wheel Loader/Truck Application Match



Maintenance and Serviceability

Easier maintenance and enhanced serviceability give you more time in the pile.

Maintenance and Repair. Is easier through monitoring key functions and logging critical indicators. Electronic diagnostic access is possible with a single tool, the Cat Electronic Technician (ET). In addition to the servicing features built into the engine, the 988H includes:

Daily Maintenance Checks. Most can be performed from the left side of the machine, making it part of an easy pre-start routine. Routine maintenance promotes long service life and durability.

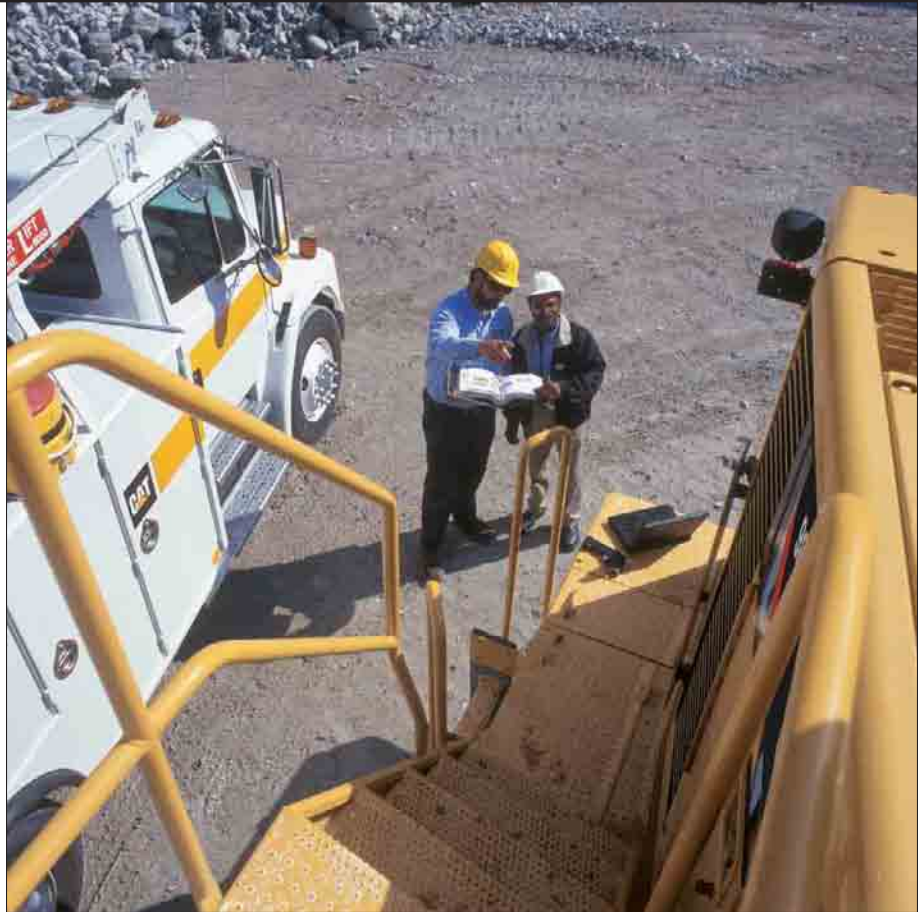
Next Generation Modular Radiator (NGMR). Allows service technicians to replace individual cores for enhanced serviceability. Maintenance is also simplified since NGMR is isolated from the engine compartment.

U-joints and Slipshaft. Are permanently lubricated.

Lube Points. Are centralized in accessible locations. Fuel fill is located on the left side. Both lube points and fuel fill are accessible from ground level, making lube and fuel service quicker and easier.

Swing-out Doors. On both sides of the engine compartment provide easy access to the engine oil dipstick and filler spout, S-O-SSM port, fuel filters, air conditioner compressor, engine oil filters, alternator, starting receptacle, air filter service indicator, coolant fill and ether starting aid. The disconnect switch and diagnostic connectors are located on the rear platform.

Hinged Doors. In the platform provide access to the hydraulic tank fill, lift and tilt and steering filters. The transmission sight glass and filler spout are serviced from the hitch area.



Case Drain Filters. Protect the hydraulic system from contamination and are conveniently located behind the cab in the service platform.

Batteries (1000 CCA). Sit in a built-in battery box and are accessible through tread plates on the right platform.

Shock Resistant Lights. Are replaceable by hand, not requiring the use of any tools.

Caterpillar Monitoring System (EMS-III). Provides operators and service technicians with diagnostic information on the machine's major components and systems. It also allows for a flashable software using a laptop and Cat ET instead of replacing a chip that contains the new software.

Remote Mounted ECPC Pressure Taps. Are easily accessible behind the cab under the platform.

500 Hour Oil Change Interval. Uptime and production are increased with a longer time between engine oil changes.

Customer Support

Cat Dealer services help you operate longer with lower costs.



Machine Selection. Make detailed comparisons of the machines under consideration before purchase. Cat Dealers can estimate component life, preventative maintenance cost and the true cost of lost production.

Purchase. Look past initial price. Consider the financing options available as well as the day-to-day operating costs. 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.

Customer Support Agreements.

Cat Dealers offer a variety of product support agreements and work with customers to develop a plan that best meets specific needs. These plans can cover the entire machine, including work tools, to help protect the customer's investment.

Product Support. You will find nearly all parts at our dealer parts counter. Cat Dealers use a world-wide computer network to find in-stock parts to minimize machine down time. Save money with genuine Cat Remanufactured parts. You receive the same warranty and reliability as new products at cost savings of 40 to 70 percent.

Operation. Improving operating techniques can boost your profits. Your Cat Dealer has training videotapes, literature and other ideas to help you increase productivity.

Maintenance Services. More and more equipment buyers are planning for effective maintenance before buying equipment. Choose from your dealer's wide range of maintenance services at the time you purchase your machine. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as S•O•SSM and Coolant Sampling and Technical Analysis help you avoid unscheduled repairs.

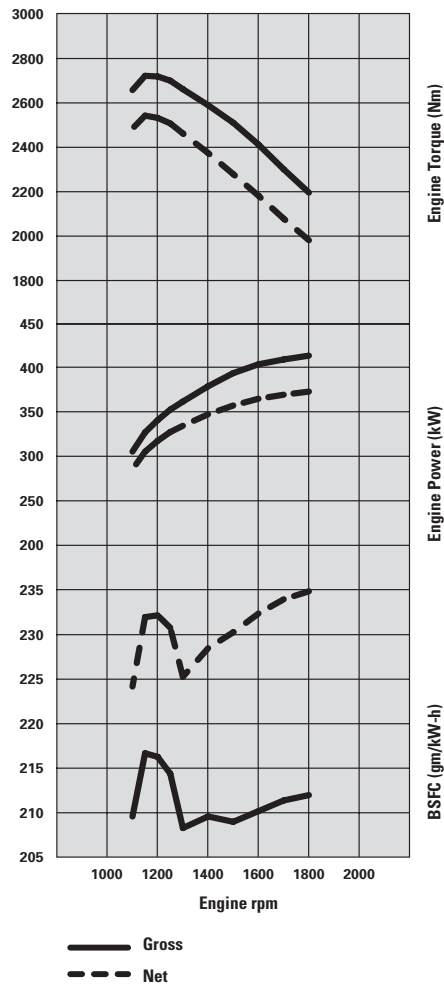
Replacement. Repair, rebuild or replace? Your Cat Dealer can help you evaluate the cost involved so you can make the right choice.

Engine

Cat C18 with ACERT Technology

Gross Power	414 kW/563 hp
Net Power	
EEC 80/1269	373 kW/507 hp
ISO 9249	373 kW/507 hp
Bore	145 mm
Stroke	183 mm
Displacement	18.1 Liters

- These ratings apply at 1800 rpm when tested under the specific standard conditions for the specified standard.
- Net power advertised is the power available when the engine is equipped with alternator, air cleaner, muffler and hydraulic fan drive.
- No derating required up to 3000 m altitude.
- Direct-electric 24-volt starting system with 100-amp alternator and four high performance maintenance-free batteries with 1000 cold cranking amps.
- All engine horsepowers are metric including front page.
- Engine is EU Stage IIIA compliant.



Transmission

Converter Drive	km/h
Forward	
1	7
2	12
3	21
4	36
Reverse	
1	8
2	14
3	24
Direct Drive	
Forward	
1	Lock-up disabled
2	12
3	22
4	39
Reverse	
1	8
2	14
3	25

- Travel speeds based on two percent rolling resistance and 35/65-33 tires.

Steering

Total Steering Angle	86°
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- Full hydraulic, load-sensing steering system meets ISO 5010:1992 specified standards.
- Center point frame articulation.
- Front and rear wheel track.

Hydraulic Cycle Time

	Seconds
Raise	9.4
Dump	2.4
Lower Float Down (empty)	3.8
Total Hydraulic Cycle Time	15.6

Axles

Maximum Single-Wheel Rise and Fall		568 mm
Front	Fixed	
Rear	Oscillating ±13°	

Loader Hydraulic System

Main hydraulic system output at 2010 rpm and 69 bar	492 L/min
Relief Valve Setting	310 bar
Cylinders, double acting	
lift, bore, and stroke	220 x 911 mm
tilt, bore, and stroke	220 x 1770 mm
Pilot system, gear-type pump output at 2010 rpm and 25 bar	
	76 L/min
Relief valve setting (low idle)	24 bar

- With SAE 10W oil at 66°C

Service Refill Capacities

	Liters
Fuel tank	712
Cooling System	103
Crankcase	60
Transmission	70
Differentials and final drives	
front	186
rear	186
Hydraulic system	
factory fill	470
tank only	267

Operating Specifications

Rated Payload	11 400 kg
Operating Weight	49 550 kg

ROPS/FOPS

- Caterpillar cab with integrated Rollover Protective Structure (ROPS/FOPS) are standard.
- ROPS meets ISO 3471:1994 criteria.
- FOPS meets ISO 3449:1992 Level II criteria.

Buckets

Bucket Capacities	6.3-7.0 m ³
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Brakes

Meets ISO 3450:1996 standards.

Sound

Operator Sound

The operator sound pressure level is 77 dB(A) measured according to the static test procedure and conditions specified in ISO 6394:1998 for an enclosed cab when tested with the doors and windows closed.

Exterior Sound

For “CE” marked configurations, the labeled sound power level is 110 dB(A) measured according to the test procedures and conditions specified in 2000/14/EC.

For “CE” marked configurations, the operator sound pressure level is 73 dB(A) measured according to the test procedures and conditions specified in 2000/14/EC Directive and ISO 6396:1992.

The sound power level is 115 dB(A) measured according to the dynamic test procedure and conditions specified in ISO 6395:1998/AMD. 1:1996 for a standard non-European Union compliant machine configuration.

Tire Specifications

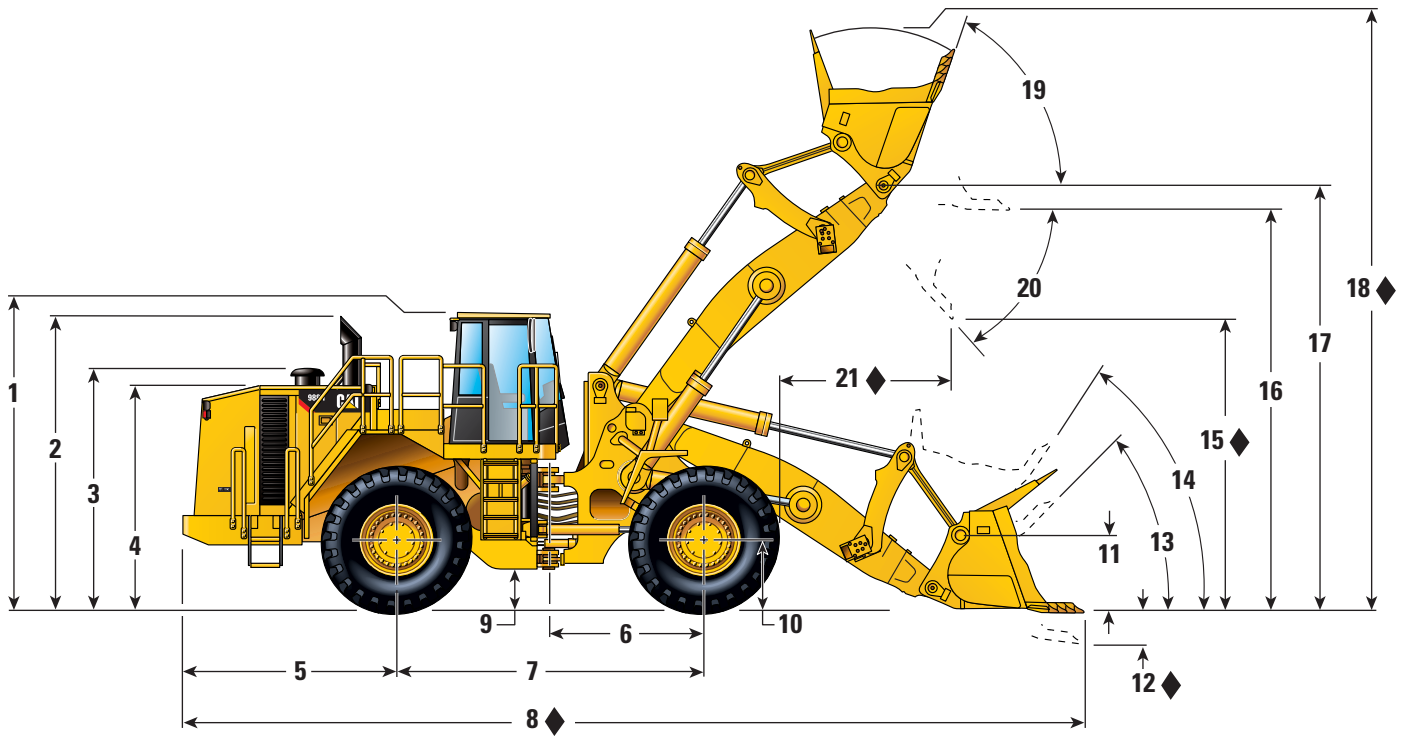
	Width over tires	Ground clearance	Change in vertical dimensions	Change in operating weight	Change in full turn static tipping load
	mm	mm	mm	mm	mm
35/65R33 (L-4) Michelin XLDD1	3579	445	–	–	–
35/65-33 42PR-(L-5) Bridgestone D-Lug	3541	544	-99	2259	1310
35/65R33 (L-4) Bridgestone V-Steel N Traction VSTN	3566	483	-38	664	385
35/65R33 (L-5) Bridgestone V-Steel D-Lug VSDL	3566	498	-53	1257	729
35/65-33 42PR (L-5) General LD 250 Belted	3487	506	-61	1510	876
875/65R33 (L-4) Goodyear RL-4K Hi Stability	3487	506	-61	552	320
35/65R33 (L-5) Goodyear RL-5K 20 20 6S	3574	508	-64	974	565
35/65-33 42PR (L-5) Goodyear NRL D/L 5A	3574	508	-64	1646	954
875/65R33 (L-5) Goodyear RL-5K Hi Stability	3574	508	-64	1486	862
35/65R33 (L-5) Michelin XLDD2	3579	463	-18	648	376
35/65R33 (L-5) Michelin XMINED2	3579	478	-33	1404	815

In certain applications (such as load-and-carry work) the loader’s productive capabilities might exceed the tires tonnes-km/f capabilities.

Caterpillar recommends that you consult a tire supplier to evaluate all conditions before selecting a tire model. Other special tires are available on request.

Dimensions

All dimensions are approximate.



	mm	mm
Linkage	3880	4250
1 Height to Top of Cab	4128	4128
2 Height to Top of Exhaust Stacks	4112	4112
3 Height to Top of Air Cleaner	3382	3382
4 Height to Top of Hood	3156	3156
5 Center Line of Rear Axle to Edge of Rear Bumper	3132	3132
6 Center Line of Front Axle to Hitch	2275	2275
7 Wheel Base Length	4550	4550
8 Length with Bucket on Ground*		
9 Ground Clearance	549	549
10 Height to Center of Wheel	978	978
11 C-Pin Height	899	1009

	mm	mm
Linkage	3880	4250
12 Dig Depth*	195	226
13 Rack Back Angle at Ground	45.7°	47.8°
14 Rack Back Angle at Carry	54°	56.5°
15 Clearance at Maximum Lift/Dump*	3466	3879
16 Height to Spillguard	5019	5432
17 B-Pin Height	5440	5853
18 Overall Height with Bucket Raised*		
19 Rack Back Angle	73°	65°
20 Dump Angle at Maximum Lift	45°	45°
21 Reach*		

* Dimensions vary with bucket. Refer to Operation/Bucket Specifications on pg. 20-21.

Operation/Bucket Specifications with 3880 mm and 4250 mm Linkage

	Linkage	Spade Rock (standard bucket)		Wide Spade Rock		Spade Rock
		3880 mm	4250 mm	3880 mm	4250 mm	BOCE
Rated Capacity	m ³	6.4	6.4	6.9	6.9	6.9
Struck Capacity	m ³	5.3	5.3	5.7	5.7	5.7
Heaped Capacity	m ³	6.4	6.4	6.9	6.9	6.9
Bucket Width	mm	3810	3810	3980	3980	3964
18 Overall Height	mm	7699	8112	7772	8186	7772
15 Dump Clearance at 45° dump						
Bare	mm	3742	4155	3682	4095	3638
Teeth*	mm	3466	3879	3410	3823	–
21 Reach at 45° dump						
Bare	mm	1494	1591	1554	1652	1881
Teeth*	mm	2028	2126	2084	2182	–
8 Overall Length						
Bare	mm	11 877	12 321	11 962	12 406	11 982
Teeth*	mm	12 215	12 658	12 294	12 738	–
Turning Radius at SAE Carry						
Bare	mm	8543	8731	8641	8828	8644
Teeth*	mm	8597	8787	8689	8879	–
21 Reach at 45° dump and 2130 mm height						
Bare	mm	2389	2785	2427	2825	2840
Teeth*	mm	2924	3320	2957	3355	–
Reach with level boom level bucket						
Bare	mm	3435	3805	3520	3890	3972
Teeth*	mm	4198	4568	4277	4647	–
12 Digging Depth – Bucket Level	mm	195	226	195	226	185
Full Dump at Maximum Lift		51.4°	48.5°	51.4°	48.5°	51.4°
Tipping Load						
Straight**	kg	34 825	32 445	34 355	32 014	34 635
Articulated 43°	kg	29 368	27 191	28 923	26 780	29 182
Breakout Force***	kN	378	409	361	390	384
Operating Weight**	kg	49 546	50 574	49 816	50 844	49 716
Weight Distribution at SAE Carry						
Front	kg	25 265	25 583	25 746	26 088	25 540
Rear	kg	24 281	24 991	24 070	24 756	24 176

* Dimensions are also measured to the tip of the bucket teeth to provide accurate clearance data. SAE Standards specifies the cutting edge.

** Static tipping load and operating weight shown are based on standard machine configuration with 35/65-33, 30-ply L-4 tires, full fuel tank, coolant, lubricants and operator.

*** Measured 102 mm: behind tip of cutting edge with bucket hinge pin as pivot point in accordance with SAE J732C.

Spade Rock	Straight Rock		Heavy Duty Quarry		High Abrasion		General Purpose	
BOCE	Teeth and Segments		Teeth and Segments		Teeth and Segments		BOCE	
4250 mm	3880 mm	4250 mm	3880 mm	4250 mm	3880 mm	4250 mm	3880 mm	4250 mm
6.9	6.3	6.3	6.4	6.4	6.4	6.4	7.0	7.0
5.7	5.2	5.2	5.3	5.3	5.3	5.3	5.9	5.9
6.9	6.3	6.3	6.4	6.4	6.4	6.4	7.0	7.0
3964	3800	3800	3862	3862	3926	3926	3695	3695
8186	7699	8112	7698	8112	7699	8112	7698	8111
4051	4011	4424	3728	4141	3811	4225	3790	4203
–	3735	4148	3376	3790	3447	3860	–	–
1699	1526	1623	1543	1641	1577	1674	1720	1818
–	1765	1863	2076	2173	2047	2145	–	–
12 426	11 497	11 941	11 917	12 358	11 779	12 223	11 765	12 209
–	11 839	12 283	12 333	12 774	12 242	12 686	–	–
8803	8550	8738	8605	8795	8625	8812	8573	8763
–	8634	8824	8678	8871	8682	8873	–	–
2951	2518	2904	2401	2801	2464	2861	2729	3114
–	2757	3144	2934	3334	2935	3332	–	–
3947	3480	3850	3535	3905	3552	3922	3751	4121
–	3822	4192	4295	4665	4225	4595	–	–
216	195	226	225	256	195	226	191	222
48.5°	51.4°	48.5°	51.4°	48.5°	51.4	48.5°	51.4	48.5°
32 264	35 257	32 867	32 650	30 346	33 833	31 421	35 026	32 650
27 012	29 816	27 628	27 239	25 130	28 383	26 172	29 568	27 394
415	467	505	361	391	389	422	433	468
50 744	49 261	50 289	51 181	52 209	51 016	52 044	49 401	50 429
25 874	24 616	24 907	28 161	28 634	27 367	27 811	24 988	25 293
24 870	24 645	25 382	23 020	23 575	23 649	24 233	24 413	25 136

Standard Equipment

Standard equipment may vary. Consult your Caterpillar Dealer for specifics.

Electrical

- Alarm, back-up
- Alternator (100-amp)
- Batteries, maintenance-free (four 1000 CCA)
- Deutsch terminal connectors
- Diagnostic connector
 - Starting and charging system
- Electrical converter, 12-volt
- Electrical system, 24-volt
- Lighting system, Halogen (front and rear)
- Starter, electric (heavy-duty)
- Starter receptacle for emergency start

Operator Environment

- Air Conditioner
- Cab, sound-suppressed, pressurized
 - Internal four-post rollover protective structure (ROPS/FOPS)
 - Radio ready for (entertainment) includes antenna, speakers and converter (12-volt 15-amp)
- 12V cigar lighter, 12V power port and ashtray
- Coat hook
- Electro-hydraulic tilt and lift controls
- Heater and defroster
- Horn, electric
- Lights, (interior cab)
- Lunchbox and beverage holders
- Loose Material Mode
- Monitoring system (Caterpillar Monitoring System EMS-III)
 - Action alert system, three category
- Instrumentation, Gauges:
 - Engine coolant temperature
 - Fuel level
 - Hydraulic oil temperature
 - Transmission temperature
 - Speedometer/tachometer
- Instrumentation, Warning Indicators:
 - Axle oil temperature (front/rear)
 - Brake oil pressure
 - Engine intake/combustion air temperature
 - Electrical system, low voltage
 - Engine oil pressure
 - Engine overspeed
 - Fuel pressure
 - Hydraulic oil filter status
 - Parking brake status
 - Transmission filter status
- Mirrors, rearview (exterior mounted)
- Seat (cloth), Cat Comfort, air suspension
- Seat belt, retractable, 76 mm wide
- STIC control system with steering lock

- Tilt and lift control system lock
- Tinted glass
- Transmission gear (indicator)
- Wet-arm wiper/washers (front and rear)
 - Intermittent front wiper

Power Train

- Brakes, full hydraulic, enclosed, wet multiple disc service brakes
- Case drain filtration
- Demand fan
- Electric fuel priming aid
- Engine, Cat C18 MEUI Direct Injected Diesel with ACERT Technology and ADEM IV controller
- Guard, three piece transmission
- Parking brake
- Precleaner, engine air intake
- Radiator, Next Generation Modular Radiator (NGMR)
- Remote Electronic Clutch Pressure Control (ECPC) pressure taps
- Separated cooling system
- Starting aid (ether)/automatic
- Throttle lock
- Torque converter, impeller clutch with rimpull control system
- Transmission, planetary, auto shift with 4F/3R speed range control

Other Standard Equipment

- Automatic bucket tilt/lift kickouts, electronically adjustable from cab
- Cab tilt support
- Counterweight
- Doors, service access (locking)
- Engine, crankcase, 500 hour interval with CH4 oil
- Ground level fuel fill
- Hitch, drawbar with pin
- Hydraulic oil cooler
- Lower cab cover
- Muffler (under hood)
- Oil sampling valves
- Stairway, left side rear access
- Vandalism protection caplocks
- Venturi stack

Tires, Rims and Wheels

- An allowance for tires is included in the base machine price
 - Tire selections are shown in the Tire Specifications list on pg.18

Antifreeze

- Premixed 50 percent concentration of extended life coolant with freeze protection to -34°C

Optional Equipment

Optional equipment and customized attachments may vary. Consult your Caterpillar Dealer for specifics.

Auto Lube	Hydraulic, three valve
Auxiliary lights	Lights, HID
Axle oil-coolers	Linkage, 4250 mm
Block handler configuration (Custom)	Lock-up clutch
Buckets	Mid-ambient cooling
Bulk loader configuration (Custom)	No-SPIN differential, rear only
Computer Aided Earthmoving System (CAES) ready	Oil change, high-speed
Directional lights	Payload Control System (PCS)
Engine Brake	Product Link
Extended Life Coolant –50°C	QuickLube
Forestry configuration (Custom)	Rear intermittent wiper
Fuel, fast fill	Rear chain clearance
Fuel, heater	Ride control
Fuel, fast fill and heater	Right-hand stairway
Guards	Roading fenders, front and rear
Crankcase	Roof, extended
Steering cylinders	Secondary steering
Heater, engine coolant, 120-volt	Sound suppression, exterior
Heater, engine coolant, 220-volt	Steel mill configuration (Custom)
High ambient cooling	Tires

988H Wheel Loader

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

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Caterpillar dealer for available options.

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