# FSA20-EQU18.0, ITEM# 191 LOADER: Wheel Loader-5.75 CU YD 972M SHERIFF'S CONTRACT WORKSHEET

364-1300	972M WHEEL LOADER
561-7320	REGIONAL PKG, AM-N
506-4543	STANDARD PACKAGE
364-1300 561-7320 506-4543 506-2537 367-2333 390-7610 500-2558 396-4672 506-4545 484-0364	LINKAGE, STANDARD LIFT
367-2333	COUNTERWEIGHT, 2300KG
390-7610	AXLES, MANUAL DIFF FRONT, ED
500-2558	HYDRAULICS, 2V RC, STD/HL
396-4672	HYDRAULIC OIL, STANDARD
506-4545	STARTING, STANDARD
484-0364	LIGHTS, HALOGEN
484-0364 539-6031 551-3397 372-6549	SINGLE AXIS LEVERS, 2V, LHD
551-3397	SEAT BELT, 3"
372-6549	STEERING SYST, STANDARD
538-2773 493-9621 505-1519 434-0691 521-9360 524-0307 371-7066 297-3221 324-8092 464-6677	CAB TRIM, COMFORT (LHD)
493-9621	WINDOWS, STANDARD
505-1519	FILTRATION, STANDARD
434-0691	PRODUCT LINK, CELLULAR PLE641
521-9360	COOLING CORES, 9 FPI
524-0307	FAN, STANDARD
371-7066	ANTIFREEZE, -34C (-29F)
297-3221	TIRES, 26.5R25 MX XHA2 ** L3
324-8092	AIR INLET STANDARD, RAIN CAP
464-6677	FENDERS, BASIC +
391-5800	HOOD, NON-METALLIC
422-1636	SOUND SUPPRESSION, STANDARD
495-7517	LUBRICATION, MANUAL, STD
422-1636 495-7517 0P-3978	FUEL ANTIFREEZE, -25C (-13F)
0P-3380	INSTRUCTIONS, ENGLISH
516-1400	BKT GP ST 126" 6.26 YD3 PO

#### 972M WHEEL LOADER PIRACICABA, BRAZIL

Standard Equipment:

#### POWERTRAIN

Brakes, full hydraulic enclosed wet-disc with Integrated Braking System (IBS) Brake wear indicators Engine, Cat 9.3 Fan, radiator, electronically controlled, hydraulically driven, temperature sensing, on demand Fan, radiator, electronically controlled, hydraulically driven, temperature sensing, on demand Economy mode (for fuel reduction) Fuel priming pump (electric) Fuel/Water separator Precleaner, engine air intake Parking brake, disk & caliper Switch, transmission neutralizer lockout Torque converter, locking clutch with free wheel stator Transmission, automatic planetary power shift (4F/4R)

#### ELECTRICAL

Alarm, back-up Alternator, 145-amp brushed Batteries (2), maintenance free 1400CCA Ignition key; start/stop switch Lighting system: -4 halogen work lights -2 halogen roading lights (w/ signals) -2 halogen rear facing lights (hood mounted) Rear view camera Main disconnect switch Receptacle start (cables not included) Starter, electric, heavy duty Starting and charging system (24V)

#### **OPERATOR ENVIRONMENT**

Air conditioner, heater, and defroster (auto temp & fan) Beverage holders (2) with storage compartment for cell phone/MP3 player Bucket/Work tool function lockout Cab, pressurized and sound suppressed, (ROPS/FOPS), radio ready (entertainment) includes antenna, speakers & converter (12V-10amp) Coat hook (2) EH Controls, lift and tilt function EH Parking Brake Ergonomic cab access ladders & handrails Horn, electric Light, two dome (cab)

Ship \ Ibs

Mirrors, rearview external with integrated spot mirrors Post mounted membrane 16 switch keypad 2 receptacles, 12V Seat, Cat Comfort (cloth) air suspension Seat belt, retractable, 76mm (3") wide with indicator Steering, EH joystick, speed sensing with force feedback Sun visor, front Wet-Arm wipers/washers front & rear, intermittent front wiper Window, sliding (left and right sides) Viscous mounts Computerized monitoring system With following gauges: -Speedometer/Tachometer -Digital gear range indicator -Temperature: engine coolant, hydraulic oil, transmission oil -Fuel level With following warning indicators: -Temperature: axle oil, engine intake manifold -Pressure: engine oil, fuel Pressure Hi/Low, primary steering oil, service brake oil -Battery voltage Hi/Low -Engine air filter restriction -Hydraulic oil filter restriction -Hydraulic oil Low -Parking brake -Transmission filter bypass Multi-function monitor : -Machine settings & health parameters CAT CONNECT (on-board, utilizing multifunction monitor) -180mm(7 in) color LCD touch-screen display -Rear-view camera image display (reverse travel activated) -Machine settings & health parameters CAT CONNECT (on-board, utilizing multifunction monitor) Core app software to monitor & display: -Total fuel consumption -Average fuel burn rate -Engine fuel consumption -Total idle time -Total operating hours -Travel distance (odometer) Basic app software to monitor & display: -Total idle fuel -Total operating hours, neutral -Total operating hours with hydraulic



Ship Weight

LIST PRICE AT DEALER

#### 972M WHEEL LOADER PIRACICABA, BRAZIL

972M-BR

Ship Weight Ibs LIST PRICE AT DEALER

#### **OPERATOR ENVIRONMENT (CONT.)**

filter in bypass

#### **FLUIDS**

Extended life coolant with freeze protection to -34C (-29F)

#### **OTHER STANDARD EQUIPMENT**

Auto idle shutdown Couplings, Caterpillar O-ring face seal Ecology drains for engine, transmission, and hydraulics Ether aid ready Fenders, steel front with mud-flap/rear with extension Filters: fuel, engine air, engine oil, hydraulic oil, transmission Fuel cooler Grease zerks Grill, airborne debris Hitch, drawbar with pin Hood, non-metallic power tilting with rear clamshell Hoses, Caterpillar XT Hydraulic oil cooler (swing out) Hydraulic System, load sensing Kickout, lift & tilt, automatic (adjustable in cab) Linkage, Z-Bar, cast crosstube/tilt lever Oil sampling valves Platform, window washing Remote diagnostic pressure taps Service center (electrical & hydraulic) Sight gauges: engine coolant, hydraulic oil, and transmission oil level Steering, load sensing Toolbox Vandalism protection caplocks Couplings, Caterpillar O-ring face seal Ecology drains for engine, transmission, and hydraulics Ether aid ready Hoses, Caterpillar XT Hydraulic oil cooler (swing out) Hydraulic System, load sensing Oil sampling valves Platform, window washing Remote diagnostic pressure taps Steering, load sensing Vandalism protection caplocks

# **966M/972M** Wheel Loaders





966M	972M
Cat <sup>®</sup> C9.3 ACERT™	Cat C9.3 ACERT
232 kW (311 hp)	251 kW (337 hp)
206 kW (276 hp)	223 kW (299 hp)
2.5-9.2 m <sup>3</sup> (3.25-12.0 yd <sup>3</sup> )	2.9-9.9 m³ (3.75-13.0 yd³)
23 220 kg (51,176 lb)*	24 896 kg (54,871 lb)**
	Cat® C9.3 ACERT™ 232 kW (311 hp) 206 kW (276 hp) 2.5-9.2 m³ (3.25-12.0 yd³)

\*For 4.2 m<sup>3</sup> (5.5 yd<sup>3</sup>) general purpose buckets with BOCE. \*\*For 4.8 m<sup>3</sup> (6.28 yd<sup>3</sup>) general purpose buckets with BOCE.

#### **RELIABLE, PRODUCTIVE AND FUEL EFFICIENT**

- 10% more fuel efficient than the industry leading K Series\*
- Up to 25% more fuel efficient than H Series\*
- **Performance Series buckets** are easy to load and improve material retention
- Cat Fusion<sup>™</sup> coupler system and work tools provide a wide range of work tools and allow the same work tool on different sizes of wheel loaders
- **Cat engine with ACERT Technology** which meets U.S. EPA Tier 4 Final and EU Stage IV emission standards and includes Cat Clean Emissions Module for continuous and efficient operation
- Advanced powershift transmission with a standard lock up clutch torque converter and lock-to-lock shifting delivers smooth shifts, fast acceleration and speed on grade
- Next generation axle with standard on-the-go disc-type front manual differential locks to provide optimal traction in varying underfoot conditions for improved productivity
- Next generation load-sensing hydraulic system to provide optimal control of machine functions

#### **EASE OF OPERATION**

- Best-in-class operator environment for unmatched operator comfort and efficiency
- Advanced technology with Cat Connect to monitor, manage and enhance job site operations

#### **SERVICE ACCESS**

• Legacy one-piece hood, centralized service centers, windshield cleaning platform and harness tie-off to provide the best in class service access



\*Fuel efficiency is measured in mass of material moved per volume of fuel burned. Average efficiency improvement as tested and analyzed for an average composite cycle and standard configuration with variations per comparable model with and without Economy Mode active. Factors influence result variation such as, but not limited to, machine configuration, operator technique, machine application, climate, etc.

#### **Contents**

Reliable	4
Durable	5
Productive	6
Fuel Efficient	7
Easy to Operate	8
Versatile	10
Integrated Technologies	12
Owning Costs	14
Operating Costs	15
Serviceable	
Sustainable	17
Customer Support	17
Specifications	
Standard Equipment	
Optional Equipment	
Notes	



The new 966M and 972M Wheel Loaders have a U.S. EPA Tier 4 Final/EU Stage IV ACERT engine equipped with a combination of proven electronic, fuel, air and aftertreatment components. Applying proven technologies systematically and strategically lets us meet our customer's high expectations for productivity and fuel efficiency. Deep system integration results in reduced emissions, improved performance and improved fuel economy without interrupting machine performance making it seamless to operators. The reliability, durability, and versatility of both the 966M and 972M result in machines that are better built to meet your needs.



# Proven Components and Technology You Can Count On.

Every U.S. EPA Tier 4 Final/EU Stage IV ACERT engine is equipped with a combination of proven electronic, fuel, air and aftertreatment components.

# More Powerful, Reliable **Engine Electronics**

The electronics used in Cat U.S. EPA Tier 4 Final/EU Stage IV engines are more powerful and robust than ever. Increased features and connection commonality improve the customer experience and increase guality and reliability. Over-foam wiring harness adds to reliability even in the most demanding applications.

# **Hydraulics**

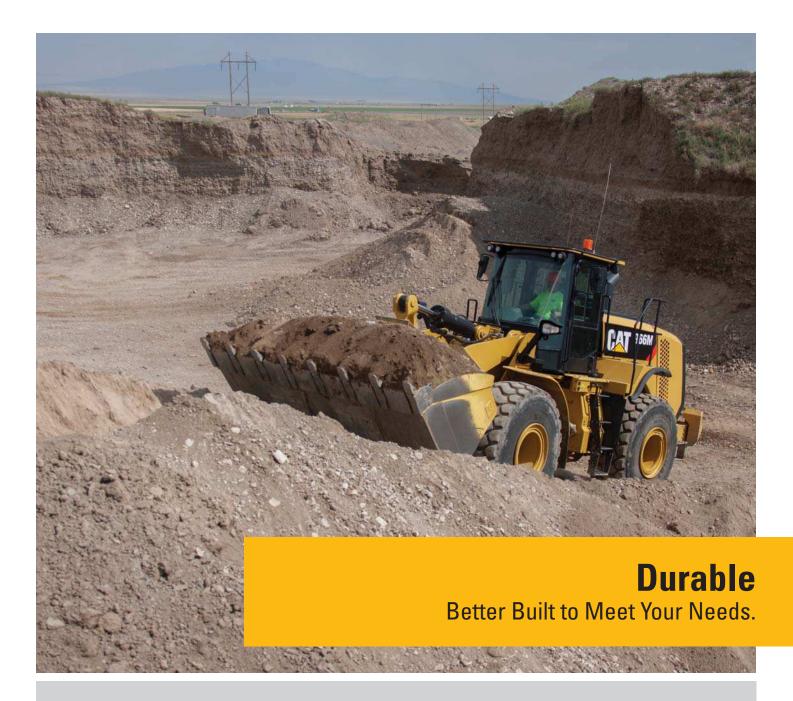
The 966M and 972M hydraulic systems have significant design changes and customer value improvements. The main hydraulic valve is now a mono-block with an integrated ride control section. The mono-block design reduces weight, has forty percent fewer leak points and is common across all M Series models. Auxiliary third and fourth hydraulic functions can be easily added at the factory or in the field with the addition of a second remote valve.

# **Equipment Monitoring**

Cat Connect technologies and Cat dealer services take the guesswork out of equipment management. Product Link™ and the online VisionLink® application enable you to monitor real-time machine data and manage machines health. Your Cat dealer offers expert advice and S·O·S<sup>™</sup> Services to maintain equipment reliability and efficiency.

# **Cold Start Package**

The new optional cold start package provides dependable starts in extreme cold weather and high altitudes.



#### **Frames**

The robotically welded two-piece structural frame design provides strong and rigid structures that absorb all the forces associated to penetration, loading and twisting.

The M Series articulating hitch system, joining the front and rear frames, provides increased bearing force capacity.

#### Axles

The M Series axles are designed to handle extreme applications resulting in reliable performance and durable life. The rear axle can oscillate to  $\pm 13$  degrees helping to ensure all four wheels stay on the ground providing stability even in the roughest terrain, for excellent stability and traction.

# **Productive** Work Smart and Move More.



The right technologies fine-tuned for the right applications result in:

- Improved Fluid Efficiency Up to 5% improvement over U.S. EPA Tier 4 Interim/EU Stage IIIB products (including Diesel Exhaust Fluid consumption).
- High Performance across a variety of applications.
- Enhanced Reliability through commonality and simplicity of design.
- Maximized Uptime and Reduced Cost with world-class support from the Cat dealer network.
- Minimized Impact of Emission Systems Designed to be transparent to the operator without requiring interaction.
- Durable Designs with long life to overhaul.
- **Delivering Better Fuel Economy** with minimized maintenance costs while providing the same great power and response.

#### **Hydraulics**

The new ride control system now has two accumulators enabling it to be more effective over a greater payload range, increasing productivity and operator efficiency due to a better ride.

The next generation implement pump continuously and automatically balance hydraulic loads with the machine performance desired by the operator. Engine response is improved as is performance at higher altitudes.

#### Transmission

The 966M and 972M power trains have been improved with the addition of a lock-up clutch torque converter standard. These new torque converters have been matched with the engine power and hydraulics to improve performance and fuel efficiency. These rugged planetary transmissions also have a new split-flow oil system which use new multi-viscosity oil to improve fuel economy.

#### Axles

In addition to aggregates, sand and gravel and batch plants, these models are commonly used in heavy construction applications where poor underfoot conditions make traction difficult slowing production and challenging job deadlines. The new on-the-fly disc-type differential locks will improve tractive ability in these applications thereby increasing productivity. These models come standard with front axle differential locks which are manually activated by a switch on the floor. Optional fully automatic front and rear axle differential locks operate by measuring differences in axle speeds and require no operator intervention to activate. These disc-type differential locks will reduce tire scuffing compared to other traction aids further reducing operating costs for customers.

The axles have new external caliper disc parking brakes mounted to the input shaft of the front axles. Since they are external, they do not have the inefficiencies of enclosed wet parking brakes due to brake discs running in oil nor is there any oil to change reducing fuel and maintenance costs. External caliper parking brakes are easily accessible for inspection and service.

# **Fuel Efficient** Engineered to Lower Your Operating Costs.



The Cat C9.3 ACERT engine is designed for maximum fuel efficiency and increased power density, while meeting U.S. EPA Tier 4 Final/EU Stage IV emission standards. This engine features innovative Cat electronics, fuel injection process, air-management systems, aftertreatment solution with Cat Selective Catalytic Reduction, and a fuel efficient regeneration system. The Cat Regeneration System automatically removed soot from the Diesel Particulate Filter without interrupting your machine's work cycle.

# **Efficient Systems and Components**

Innovative systems intelligently lower the average working engine speeds and reduce the overall system heat loads which result in significantly improved performance and fuel efficiency.

# Advanced Systems with Innovative Integration

The deep system integration of the new engine and emissions system, power train, hydraulic system and cooling system result in 10% lower fuel consumption on average compared to the 966K and 972K. The new 966M and 972M are second only to the 966M XE and 972M XE which are the class leaders in fuel efficiency.

# **Economy Mode**

The productive economy mode automatically controls the engine torque and speed based on the machine's power train load and places engine speed and torque in the most efficient operating range. The result is improved fuel efficiency while delivering optimal performance.



# **Next Generation Fuel Systems**

Cat injection timing precisely controls the fuel injection process through a series of carefully timed microbursts, providing more control of combustion for the cleanest, most efficient fuel burn. On 966M and 972M the High-Pressure Common Rail Fuel Systems boost performance and reduce soot for the C9.3 ACERT engine.

# Cat NO<sub>X</sub> Reduction System

The Cat  $NO_X$  Reduction System (NRS) captures and cools a small quantity of exhaust gas, then routes it back into the combustion chamber where it drives down combustion temperatures and reduces  $NO_X$  emissions.

# **Aftertreatment Technologies**

To meet the additional 80% reduction in NO<sub>X</sub> emissions required by U.S. EPA Tier 4 Final/EU Stage IV emission standards, one new system, the Selective Catalytic Reduction (SCR), has been added to the already proven Cat U.S. EPA Tier 4 Interim/EU Stage IIIB aftertreatment solution.

# Easy to Operate Safe. Comfortable. Efficient.



Improving operator efficiency remains a key design goal for the 966M, 966M XE, 972M and 972M XE. Ensuring operators are safe, confident in the control of their machines, have a clean, comfortable and quiet operating environment with controls that are intuitive and low effort all contribute to lower operator fatigue and better performance.

#### **Cab Access**

A switch has been added to the electronic service center which unlatches the door remotely (optional). The gas strut then swings the door open all while the operator is safely on the ground. The angle of the steps up to the cab have been increased to an optimal fifteen degrees enabling operators to walk up like stairs versus climbing more vertically like a ladder. Grab handles have been repositioned so a secure three points of contact can be maintained at all times.



### Visibility

Once in the cab, the new door securely seals against the new roll formed ROPS posts and the lower glass panel has been extended several inches to improve visibility to the left side of the machine. New larger convex mirrors improve visibility to the rear and integrated spot mirrors provide visibility close to both sides of the machine.

#### Sound

Operator sound pressure level is reduced an additional 1 dB(A) from the 966K and 972K to 70 dB(A). Exterior sound power level is reduced an additional 2 dB(A) from the 966K and 972K to 109 dB(A).

### **Central Display**

The central display panel has a large text box, five analog gauges, and LED warning indicators. The large text box provides in-language information about machine operation, feature activation and system troubleshooting and calibration. With the five large analog gauges the operator can easily identify if key systems are within normal operating range.



### **Touch Screen Display**

A new multipurpose color touch screen display dramatically simplifies the operator interface; with machine controls, rear vision camera and new fully integrated Cat Production Measurement system. Intuitive navigation with in-language text enables operators to modify certain machine operating parameters and monitor machine conditions literally at the touch of their fingers.

#### **Control Panel**

Sealed against moisture and dirt, the centralized switch panel with LED's provides reliability and ready access to frequently required functions, even while wearing gloves. The ISO symbols located on each membrane switch are molded all the way through to ensure the image will not wear off over time.

The M Series maintains the "help" feature which explains the function of each membrane switch.

Focusing on operator efficiency, the control panel has been streamlined to include easy to reach highly utilized machine controls. The touch screen display enables the relocation of some expanded functions while eliminating the need for a second switch panel for further simplicity and easy machine operation.







# Electro-Hydraulic (EH) Joystick Steering with Force Feedback (Speed Sensitive)

Your operators will enjoy and quickly adopt the industry leading seat mounted EH joystick steering system, which provide precision control and dramatically decrease operator arm fatigue. For operators who prefer a steering wheel, an electro-hydraulic steering wheel is available as an option.

### **Implement Controls (EH)**

Seat mounted single axis implement control levers provide your operator with precise control of the work tool, all while moving with the seat for maximum comfort. In-cab programmable kick-outs and automatic cylinder snubbing are easy to set on-the-go for tilt, lower and lift, ideal for repeatable cycles.

# **Ride Control**

The next generation of ride control works as a shock absorber, improving ride quality and smoothness over rough terrain, increasing your operator confidence, comfort and efficiency, ensuring excellent material retention.

# **Versatile**

Linkage and Guard Options to Meet Your Various Applications Needs.



### **Standard Z-bar Linkage**

The proven Z-bar linkage combines the digging efficiency with tool carrier capabilities (parallel/horizontal lift) for great performance and versatility.

The results are excellent visibility on work tool, excellent penetration into the pile, high breakout forces, superior production capabilities.

# **High Lift Linkage**

The optional high lift linkage offers increased hinge pin height to load more easily in a variety of applications with any type of bucket or fork.

#### Aggregate Handler

Aggregate packages are specialized offerings for specific loose aggregate rehandling applications, such as truck loading, hopper charging, stockpiling, and load and carry. Rehandling loose aggregate is less stressful on the machine, therefore payloads can be increased above other applications by installing larger buckets, counterweights and a scale system such as the Cat Production Measurement system.

To do so, the Cat aggregate packages require some prerequisites in terms of correct application, machine configuration and conformance to Caterpillar payload policy. Misapplication of Aggregate Handlers may result in significant reliability and durability risk.

#### **Industrial and Waste Handler**

The Industrial and Waste Packages offer integrated guards to preserve your machine from the harsh environment of a scrap or waste handling application. The machine guarding is purpose built to protect your machine's major components and systems to ensure durability and reliability.



# **Versatile** Do More Jobs with One Machine, Fusion Quick Coupler and Various Work Tools.

An extensive range of work tools and bucket styles are available to customize these machines for your operation. Work tools are available either with pin on or quick coupler interface.

### **Performance Series Buckets**

- Load Easy, Fuel Efficient, Carry More Performance Series Buckets utilize a systembased approach to balance bucket shape with the machine's linkage, weight, lift and tilt capacities. Operators benefit from reduced dig times and better material retention; ultimately translating into significant productivity and fuel efficiency improvements.
- Lower Operating Costs Performance Series Buckets feature a longer floor that easily digs through the pile and provides excellent visibility for the operators to see when the bucket is full. Less time digging in the pile results in lower fuel consumption and improved tire life. A unique spill guard protects the cab and linkage components from material overflow.
- **Higher Productivity** Performance Series Buckets achieve higher fill factors ranging from 100% to 115% depending on the machine application and material type. The buckets feature a curved side profile to maximize material retention. The optimized design results in unsurpassed production capabilities.

# Fusion Quick Coupler

### **Improved Machine Performance**

Fusion is the patented wheel loader coupler system from Caterpillar. The Fusion Coupler System provides performance virtually identical to pin on – with all the flexibility of a quick coupler system. The Fusion Coupler sits back, close in to the loader arms – minimizing offset and increasing the machine's performance.

# **No Loss of Performance**

Fusion is designed to integrate the work tool and the machine by pulling the coupler and tool closer in to the loader. As a result, the center of gravity is moved inward, towards the machine. This translates to increased lifting ability when compared to machines equipped with other coupler systems.

# **Unsurpassed Durability**

An advanced wedging mechanism creates a tight, rattle-free fit. This patented lock up system eliminates play and wear – resulting in a long service life.

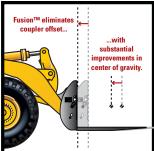
### **Increased Visibility**

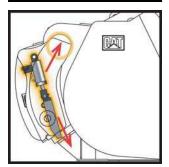
A new, open coupler frame design clears sight lines from the operator's seat, making it easier than ever before to engage and disengage attachments with certainty.

# **Common Interface Compatibility**

The Fusion Coupler System not only allows one machine to use a range of work tools, but also allows one work tool to be picked up by machines of many different sizes.









# **Integrated Technologies** Monitor, Manage, and Enhance Job Site Operations.

Cat Connect makes smart use of technology and services to improve your job site efficiency. Using the data from technologyequipped machines, you'll get more information and insight into your equipment and operations than ever before.

Cat Connect technologies offer improvements in these key areas:



**Equipment Management** – increase uptime and reduce operating costs.



**Productivity** – monitor production and manage job site efficiency.



PRODUCTIVITY

**Safety** – enhance job site awareness to keep your people and equipment safe.

Featured Cat Connect technologies include:

# **Cat Connect LINK Technologies**

LINK technologies wirelessly connect you to your equipment giving you access to essential information you need to know to run your business. Link data can give you valuable insight into how your machine or fleet is performing so you can make timely, fact-based decisions that can boost job site efficiency and productivity.

#### **Product Link/VisionLink**

Product Link is deeply integrated into your machine to take the guesswork out of equipment management. Easy access to timely information like machine location, hours, fuel usage, idle time and event codes via the online VisionLink user interface can help you effectively manage your fleet and lower operating cost.









#### **Cat Connect PAYLOAD Technologies**

PAYLOAD technologies enable accurate weight measurement of material being loaded or hauled. Payload information is shared with loader operators in real-time to improve productivity, reduce overloading and record both weights and number of loads per shift.

#### **Cat Production Measurement App**

Cat Production Measurement provides on-the-go payload weighing through the standard touch-screen display so operators can deliver exact loads with confidence and work more efficiently. Caterpillar designed, fully integrated, and factory-fit for high accuracy, reliability and ease of use. Stores up to 20 material types and 50 truck IDs and records detailed data to track productivity, including time/date, weights, cycles, and more. An optional in-cab printer provides the driver a printed receipt of truck payloads.

The operator can track production using the two trip counter screens on the display. Site supervisors can wirelessly access data using the VisionLink web portal to measure production and monitor efficiency.

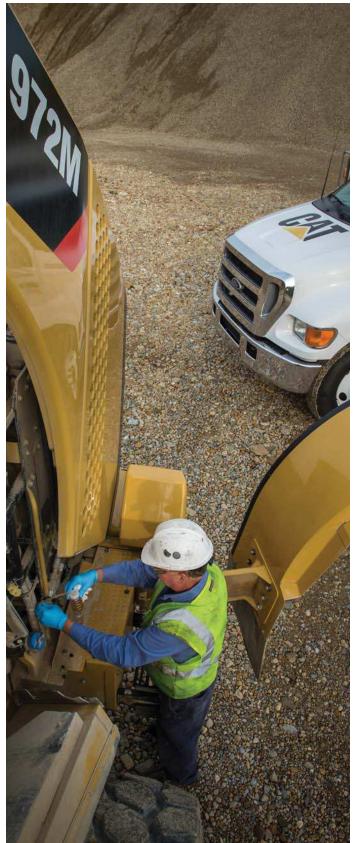
### **Cat Connect DETECT Technologies**

DETECT technologies help keep people and equipment safe by enhancing operator awareness of the work area around the equipment, by integrating safety features and by monitoring and reporting unsafe conditions or equipment operation.

# **Rear Vision Camera**

The standard rear vision camera greatly enhances visibility behind the machine to help the operator work more safely and productively. A panoramic rear view is automatically displayed on the new multi-function monitor during reverse travel. As an option, a second display can be added, providing a dedicated full-time rear view of the job site.

# **Owning Costs** Proven Best Investment.



#### **Customer Support Agreements**

A Customer Support Agreement (CSA) is an arrangement between you and your Cat dealer that helps you lower your total cost per ton. CSAs are flexible, allowing them to be tailored to your business needs. They can range from simple Preventive Maintenance Kits to elaborate Total Cost Performance Guarantees. Having a CSA with your Cat dealer enables more time for you to do what you do best – run your business.

#### **Monitoring Systems**

Monitoring product health is key to optimizing the life of an investment into a Cat Wheel Loader.

- **Cat Product Link** Cat Product Link allows remote monitoring of equipment to improve overall fleet management effectiveness. Product Link is deeply integrated into machine systems. Events and diagnostic codes, as well as hours, fuel, idle time and other detailed information are transmitted to a secure web based application, VisionLink. VisionLink includes powerful tools to convey information to users and dealers, including mapping, working and idle time, fuel level and more.
- S·O·S Services Helps manage component life and decrease machine downtime, increasing productivity and efficiency.
   Regular fluid sampling can help track what is going on inside your machine. Wear related problems are predictable and easily repairable.
   Maintenance can be done to accommodate your schedule, resulting in increased uptime and flexibility in maintenance repairs before failure.

### **Parts Availability**

Caterpillar provides an unsurpassed level of personalized service to help you work more cost effectively and efficiently. By utilizing a worldwide parts network Cat dealers help minimize machine downtime and save money by delivering replacement parts within 24 hours.

#### **Resale Value**

Owning quality equipment is an important factor in maintaining resale value. Caterpillar is not only known for machines that are better built, but provides product and dealer support to maintain the reliability and durability of your machine.



Machine configuration, operator technique, and job site layout can impact fuel consumption by as much as 30 percent. Data from customer machines show Cat wheel loaders are the most fuel efficient machines in the industry. Several features contribute to this excellent fuel efficiency:

- New M Series U.S. EPA Tier 4 Final/ EU Stage IV Engine, Hydraulics, Transmission and Ride Control – Deep system integration results in reduced emissions, more productivity, lower fuel consumption, without interrupting machine performance – making it seamless to you and your operators.
- New Manual/Automatic Differential Locks – Increase traction, reduce tire scuffing compared to other traction aids, further reducing your operating costs.

- New External Caliper Disc Parking Brakes – Easily accessible for maintenance.
- Lock-up-Clutch Torque Converter and Shift Strategy – Reduced torque interruption increases driveline efficiency, conserving fuel. Auto 1-4 transmission mode keeps engine rpm low, reducing fuel consumption while delivering optimal machine performance.
- Machine Configuration Select the correct linkage, guarding, work tool and tire type based on machine application. Radial tires are preferred; ensure proper inflation pressures. Heavier tires burn more fuel.
- Performance Series Buckets Deliver faster fill times and better material retention, ultimately reducing cycle times while improving productivity and fuel efficiency.

#### **Enabling Application Efficiency**

- Loading Bucket Load in first gear and keep engine rpm low. Raise and tilt bucket smoother, with Caterpillar's multi-function capability, and do not use a "pumping" motion. Avoid lift lever detent and use of transmission neutralizer. Use programmable kick-outs and automatic cylinder snubbing during repeated cycles.
- Loading Truck or Hopper Do not raise the work tool any higher than necessary. Keep engine rpm low and unload in controlled manner.
- Idle Set the parking brake to engage Engine Idle Management System to conserve fuel.
- Job Site Layout Spot loading targets in the right position. Avoid traveling more than twice the machine length during short cycle loading. Reduce transport distance for load and carry cycles by optimizing job site layout.

# **Serviceable** Easy to Maintain. Easy to Service.

### **Engine Access**

The Cat sloped "one-piece" tilting hood provides industry leading access to the engine. Its design has further been improved on all M Series wheel loaders to provide the best-in-class service access to engine, oil levels and coolant sight gauge.

### **Cooling System**

The cooling system is readily accessible for clean out and maintenance. With nine cooling fins per 25.4 mm (1.0 in) and a perforated grill, most airborne debris entering the system passes through the cooler cores. The hydraulic and A/C cooler cores swing out providing easy access to both sides for cleaning. An access panel on the left side of the cooling package swings down to provide access to the back side of the engine coolant and Air-to-Air After Cooler (ATAAC). An optional variable pitch fan can automatically purge the cooler cores by periodically reversing the airflow when needed.

# **Service Centers**

The electrical and hydraulic service centers provide grouped ground level access to numerous features, enhancing safety and convenience for your operators and service technicians, while reducing service time.

The electrical service center, located beneath the left platform, contains the maintenance free batteries, a fuse relay panel, main disconnect switch, ground level engine shutdown switch, hood tilt switch, and the jump start receptacle.

Hydraulic system components on the 966M, 966M XE, 972M and 972M XE are protected by full flow and kidney-loop filtration. A filter in the hydraulic tank return line filters all of the oil returning to the tank. There is also a case drain screen for additional protection and finally, a separate kidney-loop filter with a finer micron rating continuously filters smaller particles out of the system. This multilevel design ensures the hydraulic oil is clean and thoroughly protects the rest of the hydraulic system from contamination. A new thermal bypass valve has been added to improve hydraulic system warm-up.

The hydraulic service centers are now virtually identical for the M Series product line. This new consistent layout makes it easier for service technicians who work on a variety of M Series models.





# **Sustainable** Conserving Resources.

The 966M and 972M are designed to compliment your business plan, reduce emissions and minimize the consumption of natural resources.

- Improved fuel efficiency less fuel consumed results in lower emissions.
- Machines are built with a 97% recyclability rate (ISO 16714) to conserve valuable natural resources and further enhance machine end of life value.
- Improved operator efficiency through enhanced visibility and reduced noise levels.
- Link technologies enable you to collect and analyze equipment and job site data so you can maximize productivity and reduce costs.
- Major components are rebuildable, eliminating waste and saving money by giving the machine and/or major components a second life – and even a third life.



# **Customer Support** Unmatched Support Makes the Difference.



### **Renowned Cat Dealer Support**

- Your Cat dealer is ready to help you every step of the way. From new or used machine sales, to rental or rebuild options, your Cat dealer can provide an optimal solution to your business needs.
- Unsurpassed worldwide parts availability, trained technicians and customer support agreements maximize your machine uptime.
- Financing options are offered to meet a variety of customer needs.

# 966M/972M Wheel Loaders Specifications

Engine – 966M		
Engine Model	Cat C9.3 AC	ERT
Maximum Gross Power (1,800 rpm)		
SAE J1995	232 kW	311 hp
Maximum Net Power (1,700 rpm)		
SAE J1349	206 kW	276 hp
Peak Gross Torque (1,200 rpm)		
SAE J1995	1599 N·m	1,179 lbf-ft
Maximum Net Torque (1,000 rpm)		
SAE J1349	1527 N·m	1,126 lbf-ft
Bore	115 mm	4.53 in
Stroke	149 mm	5.87 in
Displacement	9.3 L	568 in <sup>3</sup>

• Cat engine with ACERT Technology – meets U.S. EPA Tier 4 Final/ EU Stage IV emission standards.

- The power ratings apply at the stated speed when tested under the reference conditions for the specified standards.
- The net power advertised is the power available at the flywheel when the engine is equipped with fan, alternator, air cleaner and aftertreatment.
- The gross power advertised is with the fan at maximum speed.

# Buckets – 966M

Bucket Capacities	2.5-9.2 m <sup>3</sup>	3.25-12.0 yd <sup>3</sup>

#### Weight – 966M

- Operating Weight 23 220 kg 51,176 lb
- Weight based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering, sound suppression and a 4.2 m<sup>3</sup> (5.5 yd<sup>3</sup>) general purpose bucket with BOCE.

#### **Operating Specifications – 966M**

Static Tipping Load – Full 37° Turn		
With Tire Deflection	14 668 kg	32,329 lb
No Tire Deflection	15 822 kg	34,873 lb
Breakout Force	173 kN	38,984 lbf

• For a machine configuration as defined under "Weight."

• Full compliance to ISO 143971:2007 Sections 1 thru 6, which requires 2% verification between calculations and testing.

#### **Engine – 972M**

Eligino 372m		
Engine Model	Cat C9.3 ACERT	
Maximum Gross Power (1,800 rpm)		
SAE J1995	251 kW	337 hp
Maximum Net Power (1,700 rpm)		
SAE J1349	223 kW	299 hp
Peak Gross Torque (1,200 rpm)		
SAE J1995	1728 N·m	1,275 lbf-ft
Maximum Net Torque (1,100 rpm)		
SAE J1349	1654 N·m	1,220 lbf-ft
Bore	115 mm	4.53 in
Stroke	149 mm	5.87 in
Displacement	9.3 L	568 in <sup>3</sup>

• Cat engine with ACERT Technology – meets U.S. EPA Tier 4 Final/ EU Stage IV emission standards.

- The power ratings apply at the stated speed when tested under the reference conditions for the specified standards.
- The net power advertised is the power available at the flywheel when the engine is equipped with fan, alternator, air cleaner and aftertreatment.
- The gross power advertised is with the fan at maximum speed.

#### Buckets - 972M

Bucket Capacities	2.9-9.9 m <sup>3</sup>	3.75-13.0 yd <sup>3</sup>
		J

#### Weight – 972M

- Operating Weight 24 896 kg 54,871 lb
- Weight based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering, sound suppression and a 4.8 m<sup>3</sup> (6.28 yd<sup>3</sup>) general purpose bucket with BOCE.

#### **Operating Specifications – 972M**

Static Tipping Load – Full 37° Turn		
With Tire Deflection	16 164 kg	35,626 lb
No Tire Deflection	17 421 kg	38,396 lb
Breakout Force	196 kN	44,075 lbf

• For a machine configuration as defined under "Weight."

• Full compliance to ISO 143971:2007 Sections 1 thru 6, which requires 2% verification between calculations and testing.

# 966M/972M Wheel Loaders Specifications

# Transmission – 966M

Forward 1	6.5 km/h	4.0 mph
Forward 2	13.0 km/h	8.1 mph
Forward 3	23.5 km/h	14.6 mph
Forward 4	40.0 km/h	24.9 mph
Reverse 1	7.1 km/h	4.4 mph
Reverse 2	14.4 km/h	8.9 mph
Reverse 3	25.9 km/h	16.1 mph
Reverse 4	40.0 km/h	24.9 mph

• Maximum travel speed in standard vehicle with empty bucket and standard L3 tires with 826 mm (32.5 in) roll radius.

#### **Brakes**

Brakes	Brakes meet standards	ISO 3450
Hydraulic System		
Implement Pump Type	Variable Disp Piston	placement
Implement System		
Maximum Pump Output (2,200 rpm)	360 L/min	95 gal/min
Maximum Operating Pressure	31 000 kPa	4,496 psi
Optional 3 <sup>rd</sup> /4 <sup>th</sup> Function Maximum Flow	260 L/min	69 gal/min
Optional 3 <sup>rd</sup> /4 <sup>th</sup> Function Maximum Pressure	20 680 kPa	3,000 psi
Hydraulic Cycle Time with Rated Payload	966M	972M
Raise from Carry Position	6.1 Sec.	6.1 Sec.
Dump, at Maximum Raise	1.4 Sec.	1.5 Sec.
Lower, Empty, Float Down	2.6 Sec.	3.4 Sec.
Total	10.1 Sec.	11.0 Sec.

#### Axles

Front	Fixed
Rear	Oscillating ±13 degrees
Maximum Single-Wheel Rise and Fall	502 mm 19.5 in

#### Cab

**ROPS/FOPS** 

ROPS/FOPS meet ISO 3471 and ISO 3449 Level II standards

### Transmission – 972M

Forward 1	6.7 km/h	4.2 mph
Forward 2	13.1 km/h	8.1 mph
Forward 3	23.2 km/h	14.4 mph
Forward 4	40.0 km/h	24.9 mph
Reverse 1	7.6 km/h	4.7 mph
Reverse 2	15.0 km/h	9.3 mph
Reverse 3	26.5 km/h	16.5 mph
Reverse 4	40.0 km/h	24.9 mph

• Maximum travel speed in standard vehicle with empty bucket and standard L3 tires with 826 mm (32.5 in) roll radius.

#### Sound

• The sound values indicated below are for specific operating
conditions only. Machine and operator sound levels will vary at
different engine and/or cooling fan speeds. Hearing protection may
be needed when the machine is operated with a cabin that is not
properly maintained, or when the doors and/or windows are open
for extended periods or in a noisy environment.

Operator sound pressure level (ISO 6396:2008)	70 dB(A)*
Exterior sound power level (ISO 6395:2008)	109 dB(A)*
Exterior sound pressure level (SAE J88:2013)	76 dB(A)**

\*For a standard machine configuration, measured according to the procedures specified with the cooling fan speed set at maximum value.

\*\*For a standard machine configuration, measured according to the procedures specified. The measurement was conducted under the following conditions: distance of 15 m (49.2 ft), moving forward in second gear ratio with the cooling fan speed set at maximum value.

#### **Service Refill Capacities**

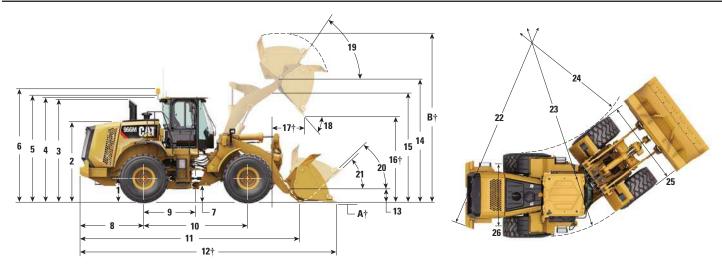
Fuel Tank	313 L	82.7 gal
DEF Tank*	16.8 L	4.4 gal
Cooling System	71.6 L	18.9 gal
Crankcase	24.5 L	6.5 gal
Transmission	58.5 L	15.5 gal
Differentials and Final Drives – Front	57 L	15.1 gal
Differentials and Final Drives – Rear	57 L	15.1 gal
Hydraulic Tank	125 L	33 gal

\*Must meet the requirements outlined in ISO 22241-1.

# 966M/972M Wheel Loaders Specifications

### 966M Dimensions

All dimensions are approximate.



	Standa	rd Lift	Lift	
1 Height to Axle Centerline	799 mm	2'7"	799 mm	2'7"
2 Height to Top of Hood	2818 mm	9'3"	2818 mm	9'3"
<b>3</b> Height to Top of Exhaust Pipe	3522 mm	11'7"	3522 mm	11'7"
4 Height to Top of ROPS	3559 mm	11'8"	3559 mm	11'8"
5 Height to Top of Product Link Antenna	3582 mm	11'9"	3582 mm	11'9"
6 Height to Top of Warning Beacon	3810 mm	12'6"	3810 mm	12'6"
7 Ground Clearance	476 mm	1'7"	476 mm	1'7"
8 Center Line of Rear Axle to Edge of Counterweight	2180 mm	7'2"	2500 mm	8'2"
<b>9</b> Center Line of Rear Axle to Hitch	1775 mm	5'10"	1775 mm	5'10"
10 Wheelbase	3550 mm	11'8"	3550 mm	11'8"
<b>11</b> Overall Length (without bucket)	7289 mm	23'11"	8109 mm	26'8"
<b>12</b> Shipping Length (with bucket level on ground)*†	8750 mm	28'9"	9570 mm	31'5"
<b>13</b> Hinge Pin Height at Carry Height	630 mm	2'1"	778 mm	2'7"
14 Hinge Pin Height at Maximum Lift	4235 mm	13'11"	4793 mm	15'9"
<b>15</b> Lift Arm Clearance at Maximum Lift	3643 mm	11'11"	4140 mm	13'6"
<b>16</b> Dump Clearance at Maximum Lift and 45° Discharge*†	2991 mm	9'9"	3549 mm	11'7"
<b>17</b> Reach at Maximum Lift and 45° Discharge*†	1353 mm	4'5"	1328 mm	4'4"
<b>18</b> Dump Angle at Maximum Lift and Dump (on stops)*	49 deg	grees	48 deg	rees
<b>19</b> Rack Back at Maximum Lift*	62 deg	rees	71 deg	rees
<b>20</b> Rack Back at Carry Height*	50 deg	rees	49 deg	rees
21 Rack Back at Ground*	42 deg	rees	39 deg	rees
<b>22</b> Clearance Circle (diameter) to Counterweight	13 608 mm	44'8"	13 608 mm	44'8"
<b>23</b> Clearance Circle (diameter) to Outside of Tires	13 522 mm	44'5"	13 522 mm	44'5"
<b>24</b> Clearance Circle (diameter) to Inside of Tires	7706 mm	25'4"	7706 mm	25'4"
<b>25</b> Width over Tires (unloaded)	2991 mm	9'10"	2991 mm	9'10"
26 Tread Width	2230 mm	7'4''	2230 mm	7'4''

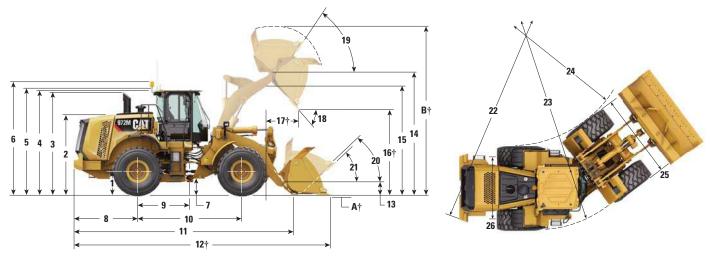
\*With 4.2 m<sup>3</sup> (5.5 yd<sup>3</sup>) general purpose pin on bucket with BOCE (see Operating Specifications for other buckets).

†Dimensions are listed in Operating Specification charts.

All height and tire related dimensions are with Michelin 26.5R25 XHA2 L3 tires (see Tire Option Chart for other tires).

#### 972M Dimensions

All dimensions are approximate.



		Standar	rd Lift	High	Lift	Extended (	Capacity
1	Height to Axle Centerline			2818 mm	9'3"	799 mm	2'7"
2	Height to Top of Hood	2818 mm	9'3"	2818 mm	9'3"	2818 mm	9'3"
3	Height to Top of Exhaust Pipe	3522 mm	11'7"	3522 mm	11'7"	3522 mm	11'7"
4	Height to Top of ROPS	3559 mm	11'8"	3559 mm	11'8"	3559 mm	11'8"
5	Height to Top of Product Link Antenna	3582 mm	11'9"	3582 mm	11'9"	3582 mm	11'9"
6	Height to Top of Warning Beacon	3810 mm	12'6"	3810 mm	12'6"	3810 mm	12'6"
7	Ground Clearance	476 mm	1'7"	476 mm	1'7"	476 mm	1'7"
8	Center Line of Rear Axle to Edge of Counterweight	2500 mm	8'2"	2500 mm	8'2"	2500 mm	8'2"
9	Center Line of Rear Axle to Hitch	1775 mm	5'10"	1775 mm	5'10"	1775 mm	5'10"
10	Wheelbase	3550 mm	11'8"	3550 mm	11'8"	3550 mm	11'8"
11	Overall Length (without bucket)	7774 mm	25'7"	8109 mm	26'8"	7609 mm	25'0"
12	Shipping Length (with bucket level on ground)*†	9315 mm	30'7"	9650 mm	31'8"	9164 mm	30'1"
13	Hinge Pin Height at Carry Height	680 mm	2'3"	778 mm	2'7"	631 mm	2'1"
14	Hinge Pin Height at Maximum Lift	4458 mm	14'8"	4793 mm	15'9"	4235 mm	13'11"
15	Lift Arm Clearance at Maximum Lift	3843 mm	12'7"	4140 mm	13'6"	3643 mm	11'11"
16	Dump Clearance at Maximum Lift and 45° Discharge*†	3154 mm	10'4"	3490 mm	11'5"	2920 mm	9'6"
17	Reach at Maximum Lift and 45° Discharge*†	1357 mm	4'5"	1380 mm	4'6"	1413 mm	4'7"
18	Dump Angle at Maximum Lift and Dump (on stops)*	48 deg	rees	48 deg	rees	48 degrees	
19	Rack Back at Maximum Lift*	56 deg	rees	71 deg	rees	62 deg	rees
20	Rack Back at Carry Height*	50 deg	rees	49 deg	rees	50 deg	rees
21	Rack Back at Ground*	41 deg	rees	39 deg	rees	42 deg	rees
22	Clearance Circle (diameter) to Counterweight	13 608 mm	44'8"	13 608 mm	44'8"	13 608 mm	44'8"
23	Clearance Circle (diameter) to Outside of Tires	13 522 mm	44'5"	13 522 mm	44'5"	13 522 mm	44'5"
24	Clearance Circle (diameter) to Inside of Tires	7706 mm	25'4"	7706 mm	25'4"	7706 mm	25'4"
25	Width over Tires (unloaded)	2991 mm	9'10"	2991 mm	9'10"	2991 mm	9'10"
26	Tread Width	2230 mm	7'4''	2230 mm	7'4''	2230 mm	7'4''

\*Standard and High Lift are with 4.8 m<sup>3</sup> (6.3 yd<sup>3</sup>) general purpose pin on bucket with BOCE (see Operating Specifications for other buckets). Extended Capacity is with a 4.9 m<sup>3</sup> (6.4 yd<sup>3</sup>) general purpose pin on bucket with BOCE (see Operating Specifications for other buckets).

†Dimensions are listed in Operating Specification charts.

All height and tire related dimensions are with Michelin 26.5R25 XHA2 L3 tires (see Tire Option Chart for other tires).

# **Dimension Changes – Tires**

Tire Brand	Michelin	Michelin	Michelin	Bridgestone	Bridgestone	Bridgestone
Tire Size	26.5R25	26.5R25	26.5R25	26.5R25	26.5R25	775/65R29
Tread Type	L-4	L-5	L-5	L-3	L-5	L-3
Tread Pattern	XLDD1	XLDD2	XMINED2	VJT	VSDL	VTS
Width over Tires – Maximum (empty)*	2987 mm	2986 mm	2970 mm	2982 mm	2874 mm	3080 mm
	9'10"	9'10"	9'9"	9'9"	9'5"	10'1"
Width over Tires – Maximum (loaded)*	3019 mm	3011 mm	2994 mm	3016 mm	2900 mm	3101 mm
	9'11"	9'11"	9'10"	9'11"	9'6"	10'2"
Change in Vertical Dimensions	44 mm	39 mm	53 mm	15 mm	50 mm	17 mm
(average of front and rear)	1.7"	1.5"	2.1"	0.6"	2"	0.7"
Change in Horizontal Reach	-36 mm	-34 mm	-32 mm	-3 mm	-29 mm	-5 mm
	-1.4"	-1.3"	-1.3"	-0.1"	-1.1"	-0.2"
Change in Clearance Circle to Outside of Tires	10 mm	3 mm	-14 mm	7 mm	-109 mm	92 mm
	0.4"	0.1"	-0.6"	0.3"	-4.3"	3.6"
Change in Clearance Circle to Inside of Tires	-10 mm	-3 mm	14 mm	-7 mm	109 mm	-62 mm
	-0.4"	-0.1"	0.6"	-0.3"	4.3"	-2.5"
Change in Operating Weight (without Ballast)	420 kg	716 kg	1068 kg	164 kg	1136 kg	856 kg
	926 lb	1,578 lb	2,354 lb	361 lb	2,504 lb	1,886 lb

\*Width over bulge and includes tire growth.

# **Changes Specific to the 966M**

Tire Brand	Michelin	Michelin	Michelin	Bridgestone	Bridgestone	Bridgestone
Tire Size	26.5R25	26.5R25	26.5R25	26.5R25	26.5R25	775/65R29
Tread Type	L-4	L-5	L-5	L-3	L-5	L-3
Tread Pattern	XLDD1	XLDD2	XMINED2	VJT	VSDL	VTS
Change in Static Tipping Load – Straight	303 kg	517 kg	771 kg	118 kg	821 kg	618 kg
	669 lb	1,140 lb	1,700 lb	261 lb	1,809 lb	1,362 lb
Change in Static Tipping Load – Articulated	271 kg	461 kg	688 kg	106 kg	732 kg	551 kg
	596 lb	1,017 lb	1,516 lb	233 lb	1,613 lb	1,215 lb

# Changes Specific to the 972M

Tire Brand	Michelin	Michelin	Michelin	Bridgestone	Bridgestone	Bridgestone
Tire Size	26.5R25	26.5R25	26.5R25	26.5R25	26.5R25	775/65R29
Tread Type	L-4	L-5	L-5	L-3	L-5	L-3
Tread Pattern	XLDD1	XLDD2	XMINED2	VJT	VSDL	VTS
Change in Static Tipping Load – Straight	283 kg	482 kg	719 kg	110 kg	764 kg	576 kg
	623 lb	1,062 lb	1,584 lb	243 lb	1,685 lb	1,269 lb
Change in Static Tipping Load – Articulated	252 kg	429 kg	640 kg	98 kg	680 kg	513 kg
	555 lb	946 lb	1,411 lb	216 lb	1,499 lb	1,131 lb

### 966M Bucket Fill Factors and Selection Chart

The bucket size must be chosen based on the density of the material and on the expected fill factor. The new Cat Performance Series Buckets with longer floor, larger bucket opening, increased repository angle, rounded side boards and integrated spill guard, demonstrate fill factors significantly higher than previous generation or non Cat buckets. The actual volume handled by the machine is thus often larger than the rated capacity.

Loose Material		Material Density	Fill Factor (%)*
Earth/Clay		1500-1700 kg/m <sup>3</sup> (2,528-2,865 lb/yd <sup>3</sup> )	115
Sand and Gravel		1500-1700 kg/m <sup>3</sup> (2,528-2,865 lb/yd <sup>3</sup> )	115
Aggregate:	25-76 mm (1 to 3 in)	1600-1700 kg/m <sup>3</sup> (2,696-2,865 lb/yd <sup>3</sup> )	110
	19 mm (0.75 in) and smaller	1800 kg/m <sup>3</sup> (3,033 lb/yd <sup>3</sup> )	105
Rock:	76 mm (3 in) and larger	1600 kg/m <sup>3</sup> (2,696 lb/yd <sup>3</sup> )	100

\*As a % of ISO rated capacity.

Note: Fill Factors achieved will also depend on whether the product is washed or not washed.

	Mat	terial Density	kg/m³	700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500
			3.80 m³ (5.00 yd³)	4.37 m <sup>3</sup> (5.72 yd <sup>3</sup> ) 3.80 m <sup>3</sup> (5.00 yd <sup>3</sup> )
	Pin On	General Purpose	4.00 m³ (5.25 γd³)	4.60 m <sup>3</sup> (6.02 yd <sup>3</sup> ) 4.00 m <sup>3</sup> (5.25 yd <sup>3</sup> )
linbana	2		4.20 m³ (5.50 yd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> ) 4.20 m <sup>3</sup> (5.50 yd <sup>3</sup> )
Standard Linkana	n OC	General	3.80 m³ (5.00 yd³)	4.37 m <sup>3</sup> (5.72 yd <sup>3</sup> ) 3.80 m <sup>3</sup> (5.00 yd <sup>3</sup> )
	Fusion QC	Purpose	4.20 m³ (5.50 yd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> ) 4.20 m <sup>3</sup> (5.50 yd <sup>3</sup> )
	Pin On	Material Handling	4.20 m³ (5.50 yd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> ) 4.20 m <sup>3</sup> (5.50 yd <sup>3</sup> )
			3.80 m³ (5.00 yd³)	4.37 m <sup>3</sup> (5.72 yd <sup>3</sup> ) 3.80 m <sup>3</sup> (5.00 yd <sup>3</sup> )
	Pin On	General Purpose	4.00 m³ (5.25 γd³)	4.60 m <sup>3</sup> (6.02 yd <sup>3</sup> ) 4.00 m <sup>3</sup> (5.25 yd <sup>3</sup> )
Hinh Lift Linbano	5		4.20 m³ (5.50 yd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> ) 4.20 m <sup>3</sup> (5.50 yd <sup>3</sup> )
Hinh Life	n OC	General General Purpose	3.80 m³ (5.00 yd³)	4.37 m <sup>3</sup> (5.72 yd <sup>3</sup> )
	Fusio		4.20 m³ (5.50 yd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> ) 4.20 m <sup>3</sup> (5.50 yd <sup>3</sup> )
	Pin On	Material Handling	4.20 m³ (5.50 yd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> )
			3.80 m³ (5.00 yd³)	4.37 m <sup>3</sup> (5.72 yd <sup>3</sup> ) 3.80 m <sup>3</sup> (5.00 yd <sup>3</sup> )
010	Pin On	General Purpose	4.00 m³ (5.25 γd³)	4.60 m <sup>3</sup> (6.02 yd <sup>3</sup> ) 4.00 m <sup>3</sup> (5.25 yd <sup>3</sup> )
diar Darl			4.20 m³ (5.50 yd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> ) 4.20 m <sup>3</sup> (5.50 yd <sup>3</sup> )
Anaronata Handlar Dachana	90	General	3.80 m³ (5.00 yd³)	4.37 m <sup>3</sup> (5.72 yd <sup>3</sup> ) 3.80 m <sup>3</sup> (5.00 yd <sup>3</sup> )
Anny	Fusion OC	Purpose	4.20 m³ (5.50 yd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> ) 4.20 m <sup>3</sup> (5.50 yd <sup>3</sup> )
	Pin On	Material Handling	4.20 m³ (5.50 γd³)	4.83 m <sup>3</sup> (6.32 yd <sup>3</sup> ) 4.20 m <sup>3</sup> (5.50 yd <sup>3</sup> )
Γ	Mat	terial Density	lb/yd³	1,180 1,348 1,517 1,685 1,854 2,022 2,191 2,359 2,528 2,696 2,865 3,033 3,202 3,370 3,539 3,707 3,876 4,044 4,213
1		ket Fill Factors 0% 105% 100% 95%		

Note: All buckets are showing Bolt-On Edges.

Linkage		St	andard Linka	ge	St	andard Linka	ge	
Bucket Type			G	eneral Purj	oose – Pin (	On		
Edge Type		Bolt-On Cutting Edges	Teeth and Segments	Tips	Bolt-On Cutting Edges	Teeth and Segments	Tips	High Lift Linkage Change**
Capacity – Rated	m <sup>3</sup>	3.80	3.80	3.60	4.00	4.00	3.80	
	yd <sup>3</sup>	5.00	5.00	4.75	5.25	5.25	5.00	_
Capacity – Rated at 110% Fill Factor	m <sup>3</sup>	4.18	4.18	3.96	4.40	4.40	4.18	
	yd <sup>3</sup>	5.47	5.47	5.18	5.75	5.75	5.47	_
Width	mm	3220	3271	3271	3220	3271	3271	_
	ft/in	10'6"	10'8"	10'8"	10'6"	10'8"	10'8"	_
16† Dump Clearance at Maximum Lift	mm	3067	2915	2915	3058	2905	2905	558
and 45° Discharge	ft/in	10'0"	9'6"	9'6"	10'0"	9'6"	9'6"	1'10"
17† Reach at Maximum Lift and 45° Discharge	mm	1292	1432	1432	1299	1438	1438	-24
	ft/in	4'2"	4'8"	4'8"	4'3"	4'8"	4'8"	-0.9"
Reach at Level Lift Arm and Bucket Level	mm	2704	2908	2908	2715	2920	2920	405
	ft/in	8'10"	9'6"	9'6"	8'10"	9'6"	9'6"	1'4"
A† Digging Depth	mm	124	124	94	124	124	94	-25
	in	4.9"	4.9"	3.7"	4.9"	4.9"	3.7"	-1"
12† Shipping Length (with Bucket)	mm	8651	8876	8876	8663	8888	8888	820
	ft/in	28'5"	29'2"	29'2"	28'6"	29'2"	29'2"	2'8"
<b>B</b> <sup>†</sup> Overall Height with Bucket at Maximum Lift	mm	5788	5788	5788	5902	5902	5902	558
	ft/in	19'0"	19'0"	19'0"	19'5"	19'5"	19'5"	1'10"
Loader Clearance Circle with Bucket	mm	14 973	15 142	15 142	14 979	15 148	15 148	479
at Carry Position	ft/in	49'2"	49'9"	49'9"	49'2"	49'9"	49'9"	1'7"
Static Tipping Load, Straight	kg	16 874	16 693	16 891	16 856	16 674	16 908	22
(With Tire Deflection)*	1b	37,192	36,791	37,229	37,152	36,750	37,266	48
Static Tipping Load, Straight	kg	18 045	17 860	18 048	18 037	17 851	18 088	-75
(No Tire Deflection)*	lb	39,772	39,364	39,777	39,754	39,344	39,867	-165
Static Tipping Load, Articulated	kg	14 876	14 693	14 883	14 855	14 671	14 890	-163
(With Tire Deflection)*	lb	32,788	32,384	32,804	32,741	32,335	32,818	-359
Static Tipping Load, Articulated	kg	16 029	15 844	16 023	16 017	15 831	16 052	-225
(No Tire Deflection)*	lb	35,329	34,921	35,315	35,303	34,893	35,379	-496
Breakout Force	kN	187	185	199	185	183	197	-17
	lbf	42,151	41,781	44,901	41,695	41,326	44,390	-37
Operating Weight*	kg	23 112	23 250	23 087	23 164	23 302	23 139	1612
	1b	50,938	51,242	50,883	51,053	51,357	50,997	3,553

\*Static tipping loads and operating weights shown are based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering and sound suppression.

\*\*Maximum values.

(With Tire Deflection) Full compliance to ISO 14397-1 (2007) Sections 1 thru 6, which requires 2% verification between calculations and testing.

(No Tire Deflection) Compliance to ISO 14397-1 (2007) Sections 1 thru 5.

Linkage			Standard Linkage			andard Linka	ge	
Bucket Type		General Purpose – Pin On			General			
Edge Type		Bolt-On Cutting Edges	Teeth and Segments	Tips	Bolt-On Cutting Edges	Teeth and Segments	Tips	High Lift Linkage Change**
Capacity – Rated	m <sup>3</sup>	4.20	4.20	4.00	3.80	3.80	3.60	
	yd <sup>3</sup>	5.50	5.50	5.25	5.00	5.00	4.75	_
Capacity – Rated at 110% Fill Factor	m <sup>3</sup>	4.62	4.62	4.40	4.18	4.18	3.96	
	yd <sup>3</sup>	6.04	6.04	5.75	5.47	5.47	5.18	
Width	mm	3220	3271	3271	3220	3271	3271	
	ft/in	10'6"	10'8"	10'8"	10'6"	10'8"	10'8"	_
<b>16</b> † Dump Clearance at Maximum Lift	mm	2991	2837	2837	3038	2886	2886	558
and 45° Discharge	ft/in	9'9"	9'3"	9'3"	9'11"	9'5"	9'5"	1'10"
17† Reach at Maximum Lift and 45° Discharge	mm	1353	1490	1490	1327	1466	1466	-25
	ft/in	4'5"	4'10"	4'10"	4'4"	4'9"	4'9"	-1"
Reach at Level Lift Arm and Bucket Level	mm	2803	3008	3008	2748	2953	2953	404
	ft/in	9'2"	9'10"	9'10"	9'0"	9'8"	9'8"	1'4"
A† Digging Depth	mm	124	124	94	124	124	94	-25
	in	4.9"	4.9"	3.7"	4.9"	4.9"	3.7"	-1"
12† Shipping Length (with Bucket)	mm	8750	8975	8975	8696	8921	8921	820
	ft/in	28'9"	29'6"	29'6"	28'7"	29'4"	29'4"	2'8"
<b>B</b> <sup>†</sup> Overall Height with Bucket at Maximum Lift	mm	5902	5902	5902	5803	5803	5803	558
	ft/in	19'5"	19'5"	19'5"	19'1"	19'1"	19'1"	1'10"
Loader Clearance Circle with Bucket	mm	15 022	15 193	15 193	14 988	15 160	15 160	487
at Carry Position	ft/in	49'4"	49'11"	49'11"	49'3"	49'9"	49'9"	1'7"
Static Tipping Load, Straight	kg	16 656	16 473	16 714	16 299	16 118	16 461	51
(With Tire Deflection)*	1b	36,711	36,307	36,839	35,923	35,524	36,281	112
Static Tipping Load, Straight	kg	17 828	17 641	17 886	17 442	17 258	17 617	-44
(No Tire Deflection)*	1b	39,293	38,881	39,421	38,444	38,038	38,828	-97
Static Tipping Load, Articulated	kg	14 668	14 483	14 709	14 323	14 140	14 470	-137
(With Tire Deflection)*	lb	32,329	31,921	32,420	31,568	31,166	31,892	-302
Static Tipping Load, Articulated	kg	15 822	15 636	15 864	15 453	15 269	15 611	-196
(No Tire Deflection)*	lb	34,873	34,461	34,964	34,059	33,653	34,408	-432
Breakout Force	kN	173	171	184	180	179	192	-16
	lbf	38,984	38,618	41,343	40,632	40,264	43,192	-35
Operating Weight*	kg	23 220	23 358	23 195	23 529	23 667	23 504	1612
	lb	51,176	51,480	51,121	51,857	52,161	51,802	3,553

\*Static tipping loads and operating weights shown are based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering and sound suppression.

\*\*Maximum values.

(With Tire Deflection) Full compliance to ISO 14397-1 (2007) Sections 1 thru 6, which requires 2% verification between calculations and testing.

(No Tire Deflection) Compliance to ISO 14397-1 (2007) Sections 1 thru 5.

Linkage	Standard Linkage			St	andard Linka	ge		
Bucket Type		General Purpose – Fusion QC			Materi			
Edge Type		Bolt-On Cutting Edges	Teeth and Segments	Tips	Bolt-On Cutting Edges	Teeth and Segments	Tips	High Lift Linkage Change**
Capacity – Rated	m <sup>3</sup>	4.20	4.20	4.00	4.20	4.20	4.04	_
	yd <sup>3</sup>	5.50	5.50	5.25	5.50	5.50	5.30	_
Capacity – Rated at 110% Fill Factor	m <sup>3</sup>	4.62	4.62	4.40	4.62	4.62	4.44	
	yd <sup>3</sup>	6.04	6.04	5.75	6.04	6.04	5.81	_
Width	mm	3220	3271	3271	3220	3271	3271	_
	ft/in	10'6"	10'8"	10'8"	10'6"	10'8"	10'8"	_
16† Dump Clearance at Maximum Lift	mm	2960	2806	2806	2949	2787	2787	559
and 45° Discharge	ft/in	9'8"	9'2"	9'2"	9'8"	9'1"	9'1"	1'10"
17† Reach at Maximum Lift and 45° Discharge	mm	1398	1536	1536	1245	1372	1372	-24
	ft/in	4'7"	5'0"	5'0"	4'1"	4'6"	4'6"	-0.9"
Reach at Level Lift Arm and Bucket Level	mm	2858	3062	3062	2774	2978	2978	405
	ft/in	9'4"	10'0"	10'0"	9'1"	9'9"	9'9"	1'4"
A† Digging Depth	mm	116	116	86	124	124	94	-25
	in	4.5"	4.5"	3.4"	4.9"	4.9"	3.7"	-1"
12† Shipping Length (with Bucket)	mm	8798	9024	9024	8721	8946	8946	822
	ft/in	28'11"	29'8"	29'8"	28'8"	29'5"	29'5"	2'8"
<b>B</b> <sup>†</sup> Overall Height with Bucket at Maximum Lift	mm	5960	5960	5960	5901	5901	5901	558
	ft/in	19'7"	19'7"	19'7"	19'5"	19'5"	19'5"	1'10"
Loader Clearance Circle with Bucket	mm	15 038	15 212	15 212	15 008	15 178	15 178	493
at Carry Position	ft/in	49'5"	49'11"	49'11"	49'3"	49'10"	49'10"	1'7"
Static Tipping Load, Straight	kg	16 031	15 850	16 186	16 580	16 398	16 729	95
(With Tire Deflection)*	lb	35,334	34,933	35,675	36,544	36,143	36,871	209
Static Tipping Load, Straight	kg	17 173	16 988	17 339	17 731	17 546	17 890	34
(No Tire Deflection)*	lb	37,850	37,442	38,216	39,080	38,672	39,430	75
Static Tipping Load, Articulated	kg	14 075	13 892	14 216	14 605	14 421	14 738	-106
(With Tire Deflection)*	lb	31,022	30,618	31,332	32,190	31,786	32,483	-234
Static Tipping Load, Articulated	kg	15 204	15 019	15 355	15 740	15 555	15 883	-158
(No Tire Deflection)*	lb	33,510	33,102	33,843	34,691	34,283	35,006	-348
Breakout Force	kN	166	164	176	177	175	188	-15
	lbf	37,382	37,023	39,561	39,834	39,468	42,297	-33
Operating Weight*	kg	23 592	23 730	23 567	23 217	23 355	23 192	1612
	lb	51,997	52,301	51,941	51,170	51,474	51,114	3,553

\*Static tipping loads and operating weights shown are based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering and sound suppression.

\*\*Maximum values.

(With Tire Deflection) Full compliance to ISO 14397-1 (2007) Sections 1 thru 6, which requires 2% verification between calculations and testing.

(No Tire Deflection) Compliance to ISO 14397-1 (2007) Sections 1 thru 5.

# 966M Operating Specifications with Buckets – Aggregate Handler

Package	Agę	jregate Han	dler	Aggregat	e Handler	Aggregate Handler	
Bucket Type	General Purpose – Pin On			General Purpose – Fusion QC		Material Handling – Pin On	
Edge Type		Bolt-On Cutting Edges	Bolt-On Cutting Edges	Bolt-On Cutting Edges	Bolt-On Cutting Edges	Bolt-On Cutting Edges	Bolt-On Cutting Edges
Capacity – Rated	m <sup>3</sup>	3.80	4.00	4.20	3.80	4.20	4.20
	yd <sup>3</sup>	5.00	5.25	5.50	5.00	5.50	5.50
Capacity – Rated at 110% Fill Factor	m <sup>3</sup>	4.18	4.40	4.62	4.18	4.62	4.62
	yd <sup>3</sup>	5.47	5.75	6.04	5.47	6.04	6.04
Width	mm	3220	3220	3220	3220	3220	3220
	ft/in	10'6"	10'6"	10'6"	10'6"	10'6"	10'6"
16† Dump Clearance at Maximum Lift	mm	3067	3058	2991	3038	2960	2967
and 45° Discharge	ft/in	10'0"	10'0"	9'9"	9'11"	9'8"	9'8"
17† Reach at Maximum Lift and 45° Discharge	mm	1292	1299	1353	1327	1398	1228
	ft/in	4'2"	4'3"	4'5"	4'4"	4'7"	4'0"
Reach at Level Lift Arm and Bucket Level	mm	2704	2715	2803	2748	2858	2749
	ft/in	8'10"	8'10"	9'2"	9'0"	9'4"	9'0"
A† Digging Depth	mm	124	124	124	124	116	124
	in	4.9"	4.9"	4.9"	4.9"	4.5"	4.9"
12† Shipping Length (with Bucket)	mm	8657	8669	8756	8702	8804	8702
	ft/in	28'5"	28'6"	28'9"	28'7"	28'11"	28'7"
<b>B</b> <sup>†</sup> Overall Height with Bucket at Maximum Lift	mm	5788	5902	5902	5803	5960	5874
	ft/in	19'0"	19'5"	19'5"	19'1"	19'7"	19'4"
Loader Clearance Circle with Bucket	mm	14 973	14 979	15 022	14 988	15 038	14 995
at Carry Position	ft/in	49'2"	49'2"	49'4"	49'3"	49'5"	49'3"
Static Tipping Load, Straight	kg	18 475	18 459	18 247	17 880	17 595	18 199
(With Tire Deflection)*	lb	40,719	40,684	40,217	39,408	38,780	40,111
Static Tipping Load, Straight	kg	19 797	19 792	19 570	19 171	18 884	19 496
(No Tire Deflection)*	lb	43,634	43,623	43,134	42,254	41,622	42,969
Static Tipping Load, Articulated	kg	16 232	16 212	16 015	15 662	15 399	15 982
(With Tire Deflection)*	lb	35,777	35,732	35,299	34,519	33,940	35,225
Static Tipping Load, Articulated	kg	17 540	17 531	17 325	16 944	16 680	17 266
(No Tire Deflection)*	lb	38,658	38,638	38,185	37,345	36,762	38,056
Breakout Force	kN	187	185	173	180	166	180
	lbf	42,151	41,695	38,984	40,632	37,382	40,629
Operating Weight*	kg	23 807	23 859	23 915	24 224	24 287	23 869
	lb	52,470	52,584	52,708	53,389	53,528	52,606

\*Static tipping loads and operating weights shown are based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, aggregate counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering and sound suppression. If a rock bucket is added, those values are with Michelin 26.5R25 XLDD2 L5 tires.

(With Tire Deflection) Full compliance to ISO 14397-1 (2007) Sections 1 thru 6, which requires 2% verification between calculations and testing.

(No Tire Deflection) Compliance to ISO 14397-1 (2007) Sections 1 thru 5.

### 972M Bucket Fill Factors and Selection Chart

The bucket size must be chosen based on the density of the material and on the expected fill factor. The new Cat Performance Series Buckets with longer floor, larger bucket opening, increased repository angle, rounded side boards and integrated spill guard, demonstrate fill factors significantly higher than previous generation or non Cat buckets. The actual volume handled by the machine is thus often larger than the rated capacity.

Loose Material		Material Density	Fill Factor (%)*
Earth/Clay		1500-1700 kg/m <sup>3</sup> (2,528-2,865 lb/yd <sup>3</sup> )	115
Sand and Gravel		1500-1700 kg/m <sup>3</sup> (2,528-2,865 lb/yd <sup>3</sup> )	115
Aggregate:	25-76 mm (1 to 3 in)	1600-1700 kg/m3 (2,696-2,865 lb/yd3)	110
	19 mm (0.75 in) and smaller	1800 kg/m <sup>3</sup> (3,033 lb/yd <sup>3</sup> )	105
Rock:	76 mm (3 in) and larger	1600 kg/m <sup>3</sup> (2,696 lb/yd <sup>3</sup> )	100

\*As a % of ISO rated capacity.

Note: Fill Factors achieved will also depend on whether the product is washed or not washed.

	Materi	al Density	kg/m³	700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500
			4.60 m³ (6.00 yd³)	5.29 m <sup>3</sup> (6.92 yd <sup>3</sup> ) 4.60 m <sup>3</sup> (6.00 yd <sup>3</sup> )
ıkage	Pin On	General Purpose	4.80 m³ (6.25 yd³)	5.52 m <sup>3</sup> (7.22 yd <sup>3</sup> )
Standard Linkage			5.00 m³ (6.50 yd³)	5.75 m <sup>3</sup> (7.52 yd <sup>3</sup> ) 5.00 m <sup>3</sup> (6.50 yd <sup>3</sup> )
Star	Fusion QC	General Purpose	4.40 m³ (5.75 γd³)	5.06 m <sup>3</sup> (6.62 yd <sup>3</sup> ) 4.40 m <sup>3</sup> (5.75 yd <sup>3</sup> )
	Pin On	Material Handling	4.60 m³ (6.00 yd³)	5.29 m <sup>3</sup> (6.92 yd <sup>3</sup> )
			4.60 m³ (6.00 yd³)	5.29 m <sup>3</sup> (6.92 yd <sup>3</sup> ) 4.60 m <sup>3</sup> (6.00 yd <sup>3</sup> )
kage	Pin On	General Purpose	4.80 m³ (6.25 yd³)	5.52 m <sup>3</sup> (7.22 yd <sup>3</sup> ) 4.80 m <sup>3</sup> (6.25 yd <sup>3</sup> )
High Lift Linkage			5.00 m³ (6.50 yd³)	5.75 m <sup>3</sup> (7.52 yd <sup>3</sup> ) 5.00 m <sup>3</sup> (6.50 yd <sup>3</sup> )
High	Fusion QC	General Purpose	4.40 m³ (5.75 γd³)	5.06 m <sup>3</sup> (6.62 yd <sup>3</sup> )
	Pin On	Material Handling	4.60 m³ (6.00 yd³)	5.29 m <sup>3</sup> (6.92 yd <sup>3</sup> ) 4.60 m <sup>3</sup> (6.00 yd <sup>3</sup> )
Extended Linkage	Fusion QC	General Purpose	4.90 m <sup>s</sup> (6.41 yd <sup>s</sup> )	5.64 m <sup>3</sup> (7.38 yd <sup>3</sup> )
ackage			5.10 m³ (6.67 yd³)	5.87 m <sup>3</sup> (7.68 yd <sup>3</sup> ) 5.10 m <sup>3</sup> (6.67 yd <sup>3</sup> )
Aggregate Handler Package	Pin On	General Purpose	5.30 m³ (6.93 γd³)	6.10 m <sup>3</sup> (7.98 yd <sup>3</sup> )
Aggrega			5.50 m³ (7.19 yd³)	6.33 m <sup>3</sup> (8.28 yd <sup>3</sup> ) 5.50 m <sup>3</sup> (7.19 yd <sup>3</sup> )
		al Density	lb/yd³	1,180 1,348 1,517 1,685 1,854 2,022 2,191 2,359 2,528 2,696 2,865 3,033 3,202 3,370 3,539 3,707 3,876 4,044 4,213
		Fill Factors		

Note: All buckets are showing Bolt-On Edges.

Linkage	St	andard Linka	ge	St	andard Linka	ge		
Bucket Type	General Purpose – Pin On							
Edge Type		Bolt-On Cutting Edges	Teeth and Segments	Tips	Bolt-On Cutting Edges	Teeth and Segments	Tips	High Lift Linkage Change**
Capacity – Rated	m <sup>3</sup>	4.60	4.60	4.40	4.80	4.80	4.60	_
	yd <sup>3</sup>	6.00	6.00	5.75	6.25	6.25	6.00	_
Capacity – Rated at 110% Fill Factor	m <sup>3</sup>	5.06	5.06	4.84	5.28	5.28	5.06	_
	yd <sup>3</sup>	6.62	6.62	6.33	6.91	6.91	6.62	_
Width	mm	3220	3271	3271	3220	3271	3271	_
	ft/in	10'6"	10'8"	10'8"	10'6"	10'8"	10'8"	_
16† Dump Clearance at Maximum Lift	mm	3187	3033	3033	3154	2999	2999	336
and 45° Discharge	ft/in	10'5"	9'11"	9'11"	10'4"	9'10"	9'10"	1'1"
17† Reach at Maximum Lift and 45° Discharge	mm	1328	1465	1465	1357	1493	1493	23
	ft/in	4'4"	4'9"	4'9"	4'5"	4'10"	4'10"	0.9"
Reach at Level Lift Arm and Bucket Level	mm	2969	3174	3174	3014	3219	3219	274
	ft/in	9'8"	10'4"	10'4"	9'10"	10'6"	10'6"	11"
A† Digging Depth	mm	103	103	73	103	103	73	-5
	in	4"	4"	2.8"	4"	4"	2.8"	-0.2"
12† Shipping Length (with Bucket)	mm	9270	9494	9494	9315	9539	9539	335
	ft/in	30'5"	31'2"	31'2"	30'7"	31'4"	31'4"	1'1"
<b>B</b> <sup>†</sup> Overall Height with Bucket at Maximum Lift	mm	6195	6195	6195	6031	6031	6031	336
	ft/in	20'4"	20'4"	20'4"	19'10"	19'10"	19'10"	1'1"
Loader Clearance Circle with Bucket	mm	15 192	15 369	15 369	15 216	15 394	15 394	323
at Carry Position	ft/in	49'11"	50'6"	50'6"	50'0"	50'7"	50'7"	1'0.7"
Static Tipping Load, Straight	kg	18 477	18 293	18 550	18 502	18 318	20 545	-1592
(With Tire Deflection)*	lb	40,723	40,319	40,884	40,779	40,372	45,281	-3,508
Static Tipping Load, Straight	kg	19 724	19 537	19 796	19 755	19 567	22 192	-1752
(No Tire Deflection)*	lb	43,473	43,061	43,631	43,542	43,127	48,912	-3,863
Static Tipping Load, Articulated	kg	16 135	15 950	16 188	16 164	15 978	17 927	-1423
(With Tire Deflection)*	lb	35,563	35,155	35,680	35,626	35,215	39,512	-3,137
Static Tipping Load, Articulated	kg	17 387	17 200	17 439	17 421	17 233	19 558	-1598
(No Tire Deflection)*	lb	38,322	37,910	38,437	38,396	37,982	43,107	-3,521
Breakout Force	kN	202	201	214	196	194	207	-6
	lbf	45,482	45,173	48,227	44,075	43,766	46,655	-1,368
Operating Weight*	kg	24 969	25 106	24 943	24 897	25 034	24 871	84
	lb	55,030	55,334	54,974	54,871	55,175	54,816	186

\*Static tipping loads and operating weights shown are based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering and sound suppression.

\*\*Maximum values.

(With Tire Deflection) Full compliance to ISO 14397-1 (2007) Sections 1 thru 6, which requires 2% verification between calculations and testing.

(No Tire Deflection) Compliance to ISO 14397-1 (2007) Sections 1 thru 5.

Linkage			Standard Linkage			Standard Linkage			
Bucket Type		General Purpose – Pin On			General Purpose – Fusion QC				
Edge Type		Bolt-On Cutting Edges	Teeth and Segments	Tips	Bolt-On Cutting Edges	Teeth and Segments	Tips	High Lift Linkage Change**	
Capacity – Rated	m <sup>3</sup>	5.00	5.00	4.80	4.40	4.40	4.20		
	yd <sup>3</sup>	6.50	6.50	6.25	5.75	5.75	5.50		
Capacity – Rated at 110% Fill Factor	m <sup>3</sup>	5.50	5.50	5.28	4.84	4.84	4.62	_	
	yd <sup>3</sup>	7.19	7.19	6.91	6.33	6.33	6.04		
Width	mm	3220	3271	3271	3220	3271	3271	_	
	ft/in	10'6"	10'8"	10'8"	10'6"	10'8"	10'8"		
16† Dump Clearance at Maximum Lift	mm	3137	2982	2982	3200	3047	3047	336	
and 45° Discharge	ft/in	10'3"	9'9"	9'9"	10'6"	9'11"	9'11"	1'1"	
<b>17</b> † Reach at Maximum Lift and 45° Discharge	mm	1372	1508	1508	1327	1465	1465	23	
	ft/in	4'6"	4'11"	4'11"	4'4"	4'9"	4'9"	0.9"	
Reach at Level Lift Arm and Bucket Level	mm	3037	3242	3242	2958	3163	3163	274	
	ft/in	9'11"	10'7"	10'7"	9'8"	10'4"	10'4"	11"	
A† Digging Depth	mm	103	103	73	103	103	73	-5	
	in	4"	4"	2.8"	4"	4"	2.8"	-0.2"	
12† Shipping Length (with Bucket)	mm	9338	9562	9562	9259	9483	9483	335	
	ft/in	30'8"	31'5"	31'5"	30'5"	31'2"	31'2"	1'1"	
<b>B</b> <sup>†</sup> Overall Height with Bucket at Maximum Lift	mm	6284	6284	6284	6205	6205	6205	336	
	ft/in	20'8"	20'8"	20'8"	20'5"	20'5"	20'5"	1'1"	
Loader Clearance Circle with Bucket	mm	15 229	15 407	15 407	15 180	15 359	15 359	324	
at Carry Position	ft/in	50'0"	50'7"	50'7"	49'10"	50'5"	50'5"	1'0.8"	
Static Tipping Load, Straight	kg	18 600	18 415	18 651	18 081	17 899	18 257	-1608	
(With Tire Deflection)*	lb	40,996	40,588	41,108	39,851	39,450	40,240	-3,545	
Static Tipping Load, Straight	kg	19 856	19 668	19 906	19 317	19 131	19 507	-1771	
(No Tire Deflection)*	lb	43,764	43,348	43,873	42,576	42,166	42,993	-3,903	
Static Tipping Load, Articulated	kg	16 264	16 076	16 297	15 749	15 565	15 907	-1444	
(With Tire Deflection)*	lb	35,845	35,433	35,919	34,712	34,307	35,060	-3,181	
Static Tipping Load, Articulated	kg	17 521	17 332	17 553	16 992	16 807	17 163	-1620	
(No Tire Deflection)*	1b	38,617	38,200	38,687	37,452	37,043	37,828	-3,570	
Breakout Force	kN	198	197	210	203	202	216	-6	
	lbf	44,634	44,325	47,205	45,788	45,479	48,572	-1,378	
Operating Weight*	kg	25 010	25 147	24 984	25 327	25 464	25 301	84	
	lb	55,120	55,424	55,065	55,819	56,123	55,763	186	

\*Static tipping loads and operating weights shown are based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering and sound suppression.

\*\*Maximum values.

(With Tire Deflection) Full compliance to ISO 14397-1 (2007) Sections 1 thru 6, which requires 2% verification between calculations and testing.

(No Tire Deflection) Compliance to ISO 14397-1 (2007) Sections 1 thru 5.

Linkage			Standard Linkage			Extended Linkage			
Bucket Type			al Handling -	- Pin On		General Purpose – Fusion QC			
Edge Type		Bolt-On Cutting Edges	Teeth and Segments	Tips	High Lift Linkage Change**	Bolt-On Cutting Edges	Teeth and Segments	Tips	
Capacity – Rated	m <sup>3</sup>	4.60	4.60	4.40	_	4.90	4.90	4.70	
	yd <sup>3</sup>	6.00	6.00	5.75	_	6.41	6.41	6.15	
Capacity – Rated at 110% Fill Factor	m <sup>3</sup>	5.06	5.06	4.84	_	5.39	5.39	5.17	
	yd <sup>3</sup>	6.62	6.62	6.33	_	7.05	7.05	6.76	
Width	mm	3220	3271	3271		3220	3271	3271	
	ft/in	10'6"	10'8"	10'8"	_	10'6"	10'8"	10'8"	
<b>16</b> † Dump Clearance at Maximum Lift	mm	3120	2957	2957	336	2899	2744	2744	
and 45° Discharge	ft/in	10'2"	9'8"	9'8"	1'1"	9'6"	9'0"	9'0"	
17† Reach at Maximum Lift and 45° Discharge	mm	1251	1378	1378	23	1449	1586	1586	
	ft/in	4'1"	4'6"	4'6"	0.9"	4'9"	5'2"	5'2"	
Reach at Level Lift Arm and Bucket Level	mm	2979	3184	3184	274	2940	3145	3145	
	ft/in	9'9"	10'5"	10'5"	11"	9'7"	10'3"	10'3"	
A† Digging Depth	mm	103	103	73	-5	115	115	85	
	in	4"	4"	2.8"	-0.2"	4.5"	4.5"	3.3"	
12† Shipping Length (with Bucket)	mm	9280	9504	9504	335	9200	9425	9425	
	ft/in	30'6"	31'3"	31'3"	1'1"	30'3"	31'0"	31'0"	
<b>B</b> <sup>†</sup> Overall Height with Bucket at Maximum Lift	mm	6162	6162	6162	336	6126	6126	6126	
	ft/in	20'3"	20'3"	20'3"	1'1"	20'2"	20'2"	20'2"	
Loader Clearance Circle with Bucket	mm	15 197	15 375	15 375	334	15 081	15 255	15 255	
at Carry Position	ft/in	49'11"	50'6"	50' 6"	1'1"	49'6"	50'1"	50'1"	
Static Tipping Load, Straight	kg	18 412	18 229	18 468	-1598	19 411	19 225	19 590	
(With Tire Deflection)*	1b	40,580	40,177	40,704	-3,521	42,781	42,372	43,177	
Static Tipping Load, Straight	kg	19 640	19 453	19 695	-1757	20 885	20 695	21 079	
(No Tire Deflection)*	1b	43,286	42,875	43,409	-3,871	46,032	45,612	46,460	
Static Tipping Load, Articulated	kg	16 081	15 896	16 119	-1429	16 920	16 732	17 082	
(With Tire Deflection)*	1b	35,442	35,035	35,526	-3,149	37,293	36,878	37,649	
Static Tipping Load, Articulated	kg	17 313	17 127	17 351	-1601	18 387	18 197	18 562	
(No Tire Deflection)*	lb	38,159	37,749	38,242	-3,528	40,526	40,106	40,912	
Breakout Force	kN	201	199	213	_7	198	196	209	
	lbf	45,174	44,865	47,882	-1,647	44,570	44,204	47,022	
Operating Weight*	kg	24 964	25 101	24 938	85	25 283	25 421	25 258	
	1b	55,019	55,323	54,963	186	55,724	56,028	55,668	

\*Static tipping loads and operating weights shown are based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering and sound suppression.

\*\*Maximum values.

(With Tire Deflection) Full compliance to ISO 14397-1 (2007) Sections 1 thru 6, which requires 2% verification between calculations and testing.

(No Tire Deflection) Compliance to ISO 14397-1 (2007) Sections 1 thru 5.

# 972M Operating Specifications with Buckets – Aggregate Handler

Linkage		Aggregate Handler							
Bucket Type		General Purpose – Pin On							
Edge Type		Bolt-On Cutting Edges	Bolt-On Cutting Edges	Bolt-On Cutting Edges					
Capacity – Rated	m <sup>3</sup>	5.10	5.30	5.50					
	yd <sup>3</sup>	6.67	6.93	7.19					
Capacity – Rated at 110% Fill Factor	m <sup>3</sup>	5.61	5.83	6.05					
	yd <sup>3</sup>	7.34	7.63	7.91					
Width	mm	3357	3357	3357					
	ft/in	11'0"	11'0"	11'0"					
<b>16</b> <sup>†</sup> Dump Clearance at Maximum Lift	mm	3127	3100	3072					
and 45° Discharge	ft/in	10'3"	10'2"	10'0"					
<b>17</b> <sup>†</sup> Reach at Maximum Lift and 45° Discharge	mm	1375	1399	1424					
	ft/in	4'6"	4'7"	4'8"					
Reach at Level Lift Arm and Bucket Level	mm	3046	3083	3121					
	ft/in	9'11"	10'1"	10'2"					
A† Digging Depth	mm	108	108	108					
	in	4.2"	4.2"	4.2"					
12† Shipping Length (with Bucket)	mm	9037	9074	9112					
	ft/in	29'8"	29'10"	29'11"					
<b>B</b> <sup>†</sup> Overall Height with Bucket at Maximum Lift	mm	6235	6272	6293					
· · · · · · · · · · · · · · · · · · ·	ft/in	20'6"	20'7"	20'8"					
Loader Clearance Circle with Bucket	mm	15 362	15 382	15 403					
at Carry Position	ft/in	50'5"	50'6"	50'7"					
Static Tipping Load, Straight	kg	19 316	19 242	19 172					
(With Tire Deflection)*	lb	42,574	42,409	42,255					
Static Tipping Load, Straight	kg	20 669	20 600	20 537					
(No Tire Deflection)*	lb	45,556	45,403	45,263					
Static Tipping Load, Articulated	kg	16 799	16 726	16 658					
(With Tire Deflection)*	lb	37,026	36,865	36,716					
Static Tipping Load, Articulated	kg	18 165	18 098	18 036					
(No Tire Deflection)*	lb	40,036	39,888	39,753					
Breakout Force	kN	190	185	180					
	lbf	42,755	41,650	40,573					
Operating Weight*	kg	25 790	25 832	25 870					
	lb	56,840	56,933	57,016					

\*Static tipping loads and operating weights shown are based on a machine configuration with Michelin 26.5R25 XHA2 L3 radial tires, full fluids, operator, standard counterweight, cold start, roading fenders, Product Link, manual diff lock/open axles (front/rear), power train guard, secondary steering and sound suppression.

\*\*Maximum values.

(With Tire Deflection) Full compliance to ISO 14397-1 (2007) Sections 1 thru 6, which requires 2% verification between calculations and testing.

(No Tire Deflection) Compliance to ISO 14397-1 (2007) Sections 1 thru 5.

# 966M/972M Standard Equipment

### **Standard Equipment**

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

#### **OPERATOR ENVIRONMENT**

- Cab, pressurized and sound suppressed (ROPS/FOPS)
- Viscous mounts
- Multi-function 18 cm (7 in) color LCD touch-screen display for rear vision camera image display (reverse travel activated) and machine status, setting and health parameters
- EH controls, SAL (single axis lever) lift and tilt function
- Steering, EH joystick, speed sensing with force feedback
- Radio ready (entertainment) includes antenna, speakers and converter (12V, 10-amp)
- Air conditioner, heater, and defroster (auto temp and fan)
- EH parking brake
- Beverage holders (2) with storage compartment for cell phone/MP3 player
- Bucket/work tool function lockout
- Coat hook (2)
- Cab air filter
- Ergonomic cab access ladders and handrails
- Horn, electric
- Light, two dome (cab)
- Mirrors, rearview external with integrated spot mirrors
- Post mounted membrane 16 switch keypad
- 2 receptacles, 12V
- Seat, Cat Comfort (cloth) air suspension
- Seat belt, 51 mm (2 in) retractable, with indicator
- Sun visor, front
- Wet-arm wipers/washers front and rear, intermittent front wiper
- Window, sliding (left and right sides)
- Cab tie-off

#### **COMPUTERIZED MONITORING SYSTEM**

- With following gauges:
- -Speedometer/tachometer
- -Digital gear range indicator
- -Diesel Exhaust Fluid (DEF) level
- Temperature: engine coolant, hydraulic oil, transmission oil
- -Fuel level

- With following warning indicators:
- -Regeneration
- Temperature: axle oil, engine intake manifold
- Pressure: engine oil, fuel pressure hi/low, primary steering oil, service brake oil
- -Battery voltage hi/low
- Engine air filter restriction
- -Hydraulic oil filter restriction
- -Hydraulic oil low
- -Parking brake
- -DEF low level
- Transmission filter bypass

#### **ELECTRICAL AND LIGHTING**

- Batteries (2), maintenance free 1,400 CCA
- Ignition key; start/stop switch
- Starter, electric, heavy duty
- Starting and charging system (24V)
- Lighting system:
- Four halogen work lights (cab mounted)
- Two halogen roading lights (with signals)
- Two halogen rear vision lights (hood mounted)
- Alarm, back-up
- Alternator, 145-amp brushed
- Main disconnect switch
- Receptacle start (cables not included)

#### **CAT CONNECT TECHNOLOGIES**

- Link technologies: Product Link
- Detect technologies: rear vision camera

#### **POWER TRAIN**

- Engine, Cat C9.3 ACERT meets U.S. EPA Tier 4 Final/EU Stage IV emission standards
- Cat Clean Emissions Module (CEM) with Diesel Particulate Filter (DPF) and remote Diesel Exhaust Fluid (DEF) tank and pump
- Fuel priming pump (electric)
- Fuel/water separator
- Precleaner, engine air intake
- Economy Mode (selectable)
- Transmission, automatic planetary power shift (4F/4R)
- Torque converter, locking clutch with free wheel stator
- Switch, transmission neutralizer lockout
- Axles, manually actuated differential lock front axle, open differential rear axle
- Axles, ecology drains

- Brakes, full hydraulic enclosed wet-disc with Integrated Braking System (IBS)
- Brake wear indicators
- Parking brake, disc and caliper
- Fan, radiator, electronically controlled, hydraulically driven, temperature sensing, on demand

#### LINKAGE

- Linkage, Z-bar, cast crosstube/tilt lever
- Kickout, lift and tilt, automatic (adjustable in cab)

#### HYDRAULICS

- Hydraulic system, load sensing
- · Steering, load sensing
- Ride control, 2V
- Remote diagnostic pressure taps
- Hoses, Cat XT
- Couplings, Cat O-ring face seal
- Hydraulic oil cooler (swing out)
- Oil sampling valves

#### FLUIDS

- Premixed extended life coolant with freeze protection to  $-34^{\circ}$  C  $(-29^{\circ}$  F)

#### **OTHER STANDARD EQUIPMENT**

- Hood, non-metallic power tilting with rear clamshell
- Service centers (electrical and hydraulic)
- Platform, window washing
- Auto idle shutdown
- Fenders, steel front with mud-flap/ rear with extension

• Filters: fuel, engine air, engine oil,

hydraulic oil, transmission

• Hitch, drawbar with pin

and transmission oil level

• Vandalism protection caplocks

• Precleaner rain cap

• Ecology drains for engine, transmission, and hydraulics

• Sight gauges: engine coolant, hydraulic oil,

33

• Ether aid ready

• Fuel cooler

Toolbox

• Grease zerks

• Grill, airborne debris

#### **Optional Equipment**

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

#### **OPERATOR ENVIRONMENT**

- Door, remote opening system
- Cover, HVAC metallic
- EH controls, SAL 3<sup>rd</sup> function – Additional roller switch for 4<sup>th</sup> function
- EH controls, joystick lift and tilt
- Additional integrated roller switches for 3<sup>rd</sup> and 4<sup>th</sup> functions
- Filter, carbon fresh air
- Mirrors, heated rearview external with integrated spot mirrors
- Precleaner, HVAC
- Precleaner, HVAC (RESPA)
- Radio, AM/FM/USB/MP3 Bluetooth
- Radio, AM/FM/CD/USB/MP3 Bluetooth
- Radio, AM/FM/CD/USB/MP3 Bluetooth with Satellite Sirius and XM
- Radio, CB ready
- Seat, heated air suspension
- Seat belt, 76 mm (3 in) retractable, with indicator
- Steering, EH wheel with directional FNR shifter and gear selector
- $-\operatorname{Additional}\,\operatorname{FNR}$  with implement controls
- Roof, metallic
- · Steering, secondary
- Sun visor, rear
- Windows, rubber mounted
- Windows, with front guard
- · Windows, with heavy duty front guard
- Windows, with full guards front, rear and sides

#### **ELECTRICAL AND LIGHTING**

- Four additional halogen cab mounted work lights or;
- Four additional HID cab mounted work lights
- LED front and rear roading lights

#### STARTERS, BATTERIES, AND ALTERNATORS

- Cold start 120V
- Cold start 240V

#### **CAT CONNECT TECHNOLOGIES**

- Link technologies: VIMS<sup>™</sup>
- Payload technologies:
- -Aggregate Autodig
- -Cat Production Measurement
- -Printer, Cat Production Measurement
- Detect technologies: dedicated display for rear vision camera, full-time activation
- Machine Security System

#### **POWER TRAIN**

- Axles
- Automatic front/rear differential locks
  Axle oil cooler
- Extreme temperature seals
- Seal guards
- Fan, VPF (variable pitch fan), automatic and manual control
- · Radiator, high debris with wider fin spacing

#### LINKAGE

- High lift
- Forestry (966 only)
- Extended capacity (972 only)
- · Quick coupler ready

#### WORK TOOLS

- Performance Series buckets
- Fusion quick coupler
- Forks, pallet
- Forks, logging

#### HYDRAULICS

- 3<sup>rd</sup> function with Ride Control
- Standard linkage
- High lift linkage
- Forestry linkage
- 4<sup>th</sup> function with Ride Control
- Standard linkage
- High lift linkage
- Forestry linkage

#### FLUIDS

 $\bullet$  Premixed extended life coolant with freeze protection to  $-50^\circ$  C (-58° F)

#### **OTHER OPTIONAL EQUIPMENT**

- Fenders, roading
- Guard, power train
- Oil change, high speed engine
- Precleaner, turbine
- Precleaner, trash

#### **OTHER OPTIONAL CONFIGURATIONS**

- Aggregate Handler
- Industrial and Waste Handler
- Forestry (966 only)
- Steel Mill (972 only)

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

© 2014 Caterpillar All rights reserved

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

CAT, CATERPILLAR, SAFETY.CAT.COM, their respective logos, "Caterpillar Yellow" and the "Power Edge" trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

VisionLink is a trademark of Trimble Navigation Limited, registered in the United States and in other countries.

AEHQ7171-01 (11-2014) Replaces AEHQ7171 (Americas North)

