

# 990

## WHEEL LOADER



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**U.S. EPA Tier 4 Final/EU Stage V**  
**Engine Power – ISO 14396:2002**  
**Operating Weight**

586 kW (786 hp)  
80 974 kg (178,517 lb)

**Noncertified configuration that is equivalent to U.S. EPA Tier 2**  
**Engine Power – ISO 14396:2002**  
**Operating Weight**

561 kW (752 hp)  
80 974 kg (178,517 lb)



# THE CAT<sup>®</sup> 990

LOW COST PER TON WITH GREAT  
PRODUCTIVITY AND DURABILITY

The Cat<sup>®</sup> 990 Wheel Loader helps you move more material in less time, at a low cost per ton, for a fast return on your investment. This machine offers significant fuel savings, low maintenance costs, and great productivity and durability to achieve multiple life cycles.



## HELPING YOU MOVE MORE MATERIAL IN LESS TIME

The 990 delivers sustained efficiency, enhanced durability, and safety.

- + THE CAT C27 ENGINE, GREAT FUEL EFFICIENCY AND ADVANCED IDLING CONTROLS ON EVERY SITE
- + ADVANCED SAFETY FEATURES GIVE YOU PEACE OF MIND AND HELP REDUCE RISK
- + DURABLE DESIGN ENSURES LONG LIFE TO PROTECT YOUR INVESTMENT



**MORE POWER**  
**WITH LESS COST**

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## **POWER TO DO MORE AT A LOW COST**

The Cat C27 engine meets the most demanding applications while offering maximum fuel efficiency. Optimum performance is built in through the use of a 12-cylinder, direct injection design. An on-demand cooling fan helps protect the investment and lengthens its lifecycle.

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## **SAFE OPERATION**

Optional rear object detection enhances the great visibility provided from the standard rearview camera, and a high performance LED package for improved night vision helps keep your operator fully aware and workers safe. The operator presence detection system applies the parking brake if the operator is not seated for added protection.\*

\*Applies when the machine is stationary. Caterpillar recommends that the parking brake be applied when the machine is not in motion.

# BUILT FOR SUSTAINABILITY



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## DESIGNED FOR LOW FUEL BURN AND REDUCED ENVIRONMENTAL IMPACT

- + Engine idle shutdown and auto idle kickdown help save fuel by avoiding unnecessary idling.
- + Reduce waste generation with maintenance-free batteries.
- + The 990 is built for multiple lives. To assist with maximizing machine life, choose from sustainable options such as Reman and Certified Rebuild programs. In these programs, reused or remanufactured components can help lower operating cost.
- + Retrofit packages bring new features to older machines, maximizing the resource. Retrofit kits are part of the rebuild process in the Cat Certified Rebuild program.





# »»» MATCH AND MOVE MORE

Achieve even greater production with an optimized truck match to maximize the volume of material moved at the lowest operating cost per ton.

Cat® 772 45 t (50 ton)

**3 PASSES** 

Cat 773 56 t (61.7 ton)

**4 PASSES** 

Cat 775 64 t (70.5 ton)

**4 PASSES** 

Cat 777 91 t (100 ton)

**6 PASSES** 

**THE CAT 990 IS OPTIMALLY MATCHED WITH CAT OFF-HIGHWAY TRUCKS.**

## DO MORE FOR LESS WITH POSITIVE FLOW CONTROL

The positive flow control (PFC) hydraulic system provides more power and helps lessen fuel burn, providing consistent performance and better control. The optimized pump control produces hydraulic oil flow proportionate to implement lever movement. The PFC system also provides improved bucket feel and control through increased hydraulic response.

## ELECTRO HYDRAULIC SYSTEMS BOOST PRODUCTIVITY

Electronically controlled hydraulic cylinder stops and easy-to-use soft detent controls help make precise movements simple and comfortable. A load-sensing steering system with 35 degrees of articulation allows precise positioning and easy loading in tight areas.

# DESIGNED TO HELP EVERY OPERATOR EXCEL

## SINGLE PEDAL OPERATION

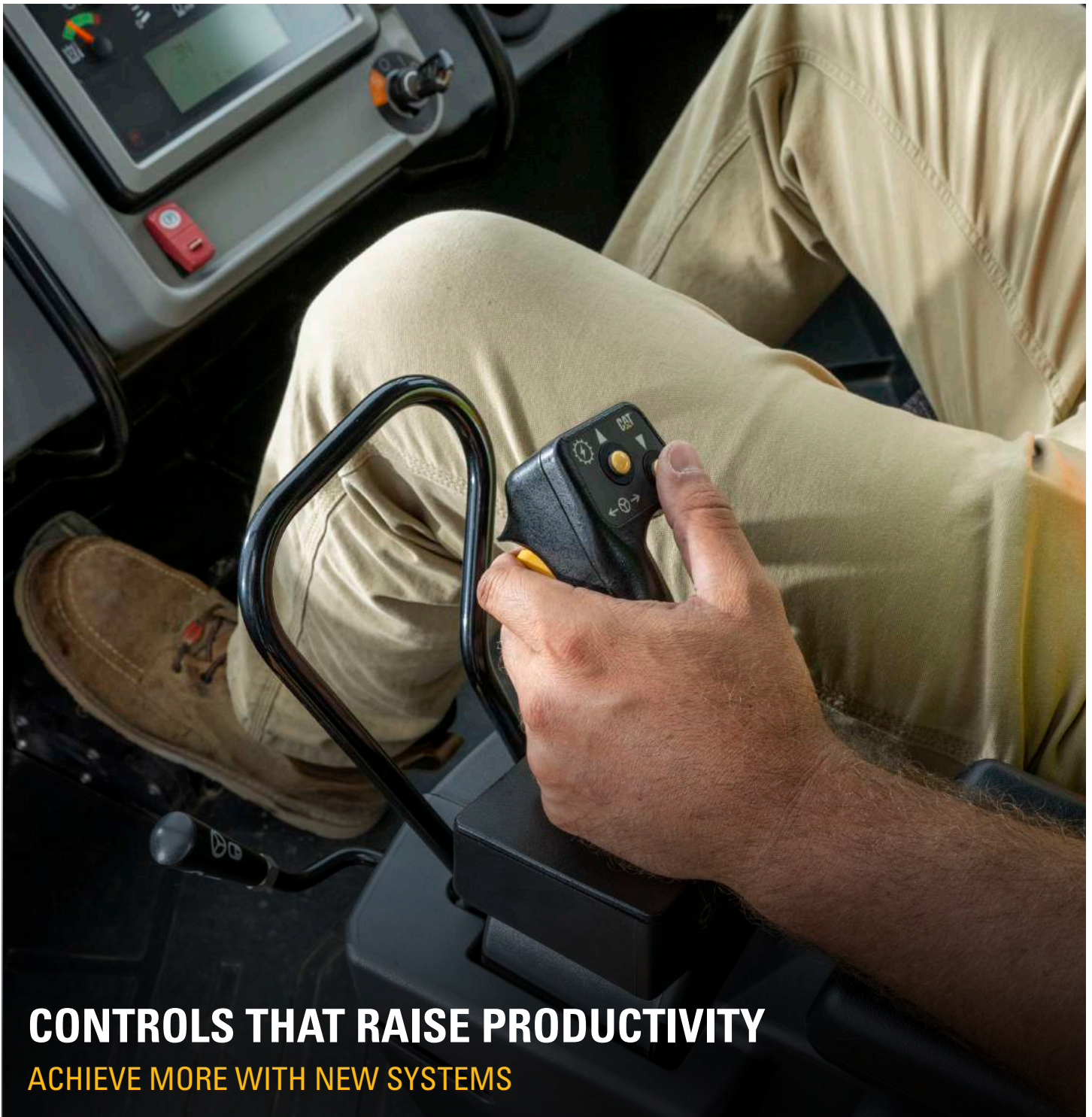
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Throttle lock and impeller clutch torque converter (ICTC) give operators easier single left-hand pedal operation.

## STEERING AND TRANSMISSION INTEGRATED CONTROL (STIC™) MAXIMIZES RESPONSIVENESS

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Easier control and shorter, faster cycles reduce operator fatigue and increase efficiency. The STIC™ system combines steering, gear selection, and more into a single lever.



# WORLD-CLASS OPERATOR COMFORT AND ERGONOMICS



## EASY ENTRY

Operators access the cab by 45-degree anti-skid stairways mounted on both sides of the machine. The STIC control column folds up and out of the way to help make cab entry and seat adjustment easier.



## PREMIUM PLUS SEAT

The premium plus seat delivers total comfort throughout the workday. Standard features include leather finish, forced air heating and cooling, two-way thigh adjustment, power lumbar and back bolster adjustment, and dynamic end dampening. The seat also features a flip-up armrest for easier ingress/egress.



## CAB COMFORT MEASURES

The 990's cabin remains comfortable. Isolated cab mounts reduce vibration, while filtered, pressurized air and automatic climate control maintain an agreeable atmosphere. A floor storage tray helps keep items out of the operator's way.



## LOW OPERATOR SOUND LEVELS

Sound levels are low, and a redesigned STIC steering valve reduces steering noise in the cab.



**OPERATOR-CENTERED ENVIRONMENT**

**REDUCED FATIGUE AND INCREASED FOCUS**

# TOTAL SAFETY FOCUS

## HELPING OPERATORS STAY SAFE AND AWARE

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Your most important job is keeping your team safe. We are constantly improving our products in an effort to provide a safe work environment for the operator and those who work on your jobsite.



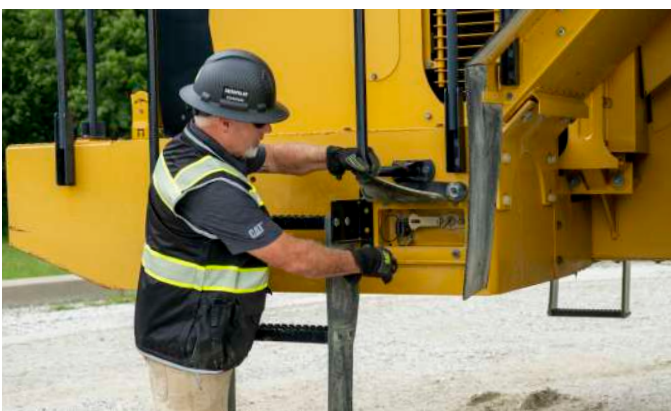
### **EASY AND SAFE ACCESS**

The cab is accessed by 45-degree angle anti-slip stairways on the left and right sides, with standard stairway lighting. All access walkways are continuous to avoid trip hazards, equipped with highly effective anti-slip texture, and designed to provide three points of contact during all tasks. Many service points are accessible from ground level. Optional powered access provides integrated stairs with powered raise and lower on the left side and standard on the right side of the machine.



### **SEE AND BE SEEN WITH HIGH VISIBILITY**

The cab provides excellent sight lines, with large quarter windows, and a standard rear vision, helping operators work more safely and confidently. Optional heated mirrors and Cat Detect radar system are available to give the operator even greater awareness of the surrounding environment. High-visibility LED warning beacons and high performance LED work lights are available as options.



### **MASTER DISCONNECT SWITCH**

Ground electrical service center with auxiliary jump start receptacle and battery disconnect switch.

BUILT FOR THE TOUGHEST CONDITIONS

# ROBUST STRUCTURES



## A STRONG LEGACY

The Cat 990 Wheel Loader has been a proven performer in mines, quarries and industrial applications around the world. The 990 brings all new levels of performance, safety, efficiency, and operator comfort.

## STRONG STRUCTURES

A full box-section rear frame helps resist torsional shock and twisting forces. Heavy-duty steering cylinder mounts efficiently transmit steering loads into the frame.

## STRONG CONNECTIONS

Every linkage and connection is engineered for maximum durability. Axle mountings have increased structural integrity, and the lower hitch pin, frame plate, and bearing size have been increased for greater strength and longer life. The greased pin design of the front linkage pin joints helps increase their service life.

## STRONG ARMS

The lift arms are solid steel for excellent stress absorption, and the strength of key pin areas is enhanced through the use of one-piece castings. The Z-bar design of the arms enhances worksite visibility.

## PERFORMANCE SERIES BUCKETS

Deliver fast fill times and better material retention, ultimately reducing cycle times while improving productivity and fuel efficiency.

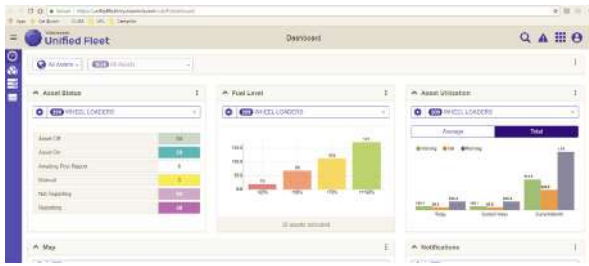
## A PROTECTED POWERTRAIN

When the machine is turned off, a delayed engine shutdown system determines whether the engine needs additional cooldown time. If so, it moves the engine into idle for a short period before final shutdown. This helps preserve engine life and durability.

# THRIVE WITH CAT TECHNOLOGY

## SMART SYSTEMS THAT HELP SAVE YOU MONEY

The 990 features empowering technology that helps you work smarter, do more, and protect your investment.



### 👉 UPGRADED TOUCHSCREEN WITH VITAL INFORMATION MANAGEMENT SYSTEM (VIMS™)

The improved touchscreen and user interface allow intuitive operation and easy navigation. VIMS™ decreases service time by keeping operators and technicians informed about machine systems and allows access to a wide range of machine data, helping reduce maintenance overhead and providing opportunities to increase productivity and efficiency.

- Create productivity reports with payload and work cycle segmentation.
- Identify operator training needs through productivity data.
- Access detailed data logging of machine parameters and diagnostic codes.
- Track sensor information with trend analysis and histograms to monitor machine health.



### 🔍 TIRE PRESSURE MONITORING SYSTEM (TPMS)

This fully-integrated feature allows operators to monitor tire inflation, keeping it optimized for fuel efficiency and best grip. Using the cab information display, the operator can quickly see the current pressure settings and temperature of each tire.



### 📊 CAT PRODUCTION MEASUREMENT (CPM)

Cat Production Measurement\* is an on-the-go scale system that brings payload weighing to the cab so operators can work more productively and deliver accurate loads with confidence. CPM's advanced weighing modes assist with payload accuracy and make the loading cycle faster.

\*Not legal for trade.



ROCK BUCKETS



HEAVY-DUTY ROCK BUCKETS



GENERAL PURPOSE BUCKETS



COAL BUCKETS

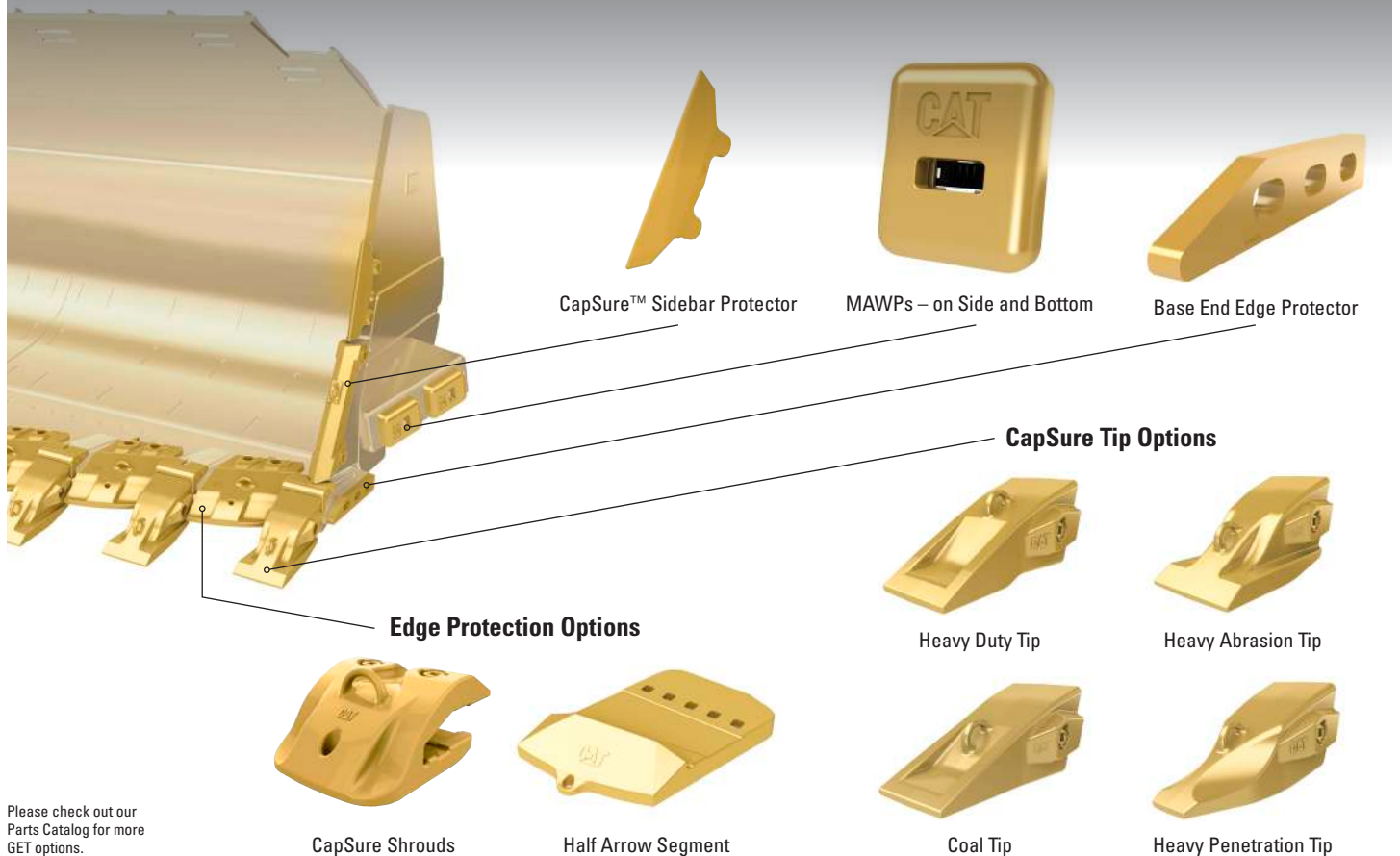
## TOOLS TO GET EVERY JOB DONE AND LOWER YOUR COSTS

Cat ground engagement tool (GET) options give you the ability to adapt to any condition and do so while protecting your investment.

- Each bucket is designed to help make moving the appropriate material easy and efficient, and each is engineered with special features that help increase durability and service life.
- Cat Advansys™ GET give you even more ability to adapt and specialize for higher profitability. These modular tips help protect expensive components, reduce your operating costs, and help you get the most out of your machine's performance.
- A number of GET components can be installed with simple, hammerless CapSure™ retention technology. CapSure tips, shrouds, and sidebar protectors are easily locked and unlocked with a 180-degree turn of a 3/4 inch (19 mm) ratchet, making the process fast, easy, and safe.

## BUCKET GROUND ENGAGEMENT TOOLS

# TOUGH ENGINEERING THAT MOVES MORE



Please check out our Parts Catalog for more GET options.



## THE 990 MILLYARD ARRANGEMENT

WORLD-CLASS EFFICIENCY AND DURABILITY

### THE PERFORMANCE YOU NEED AT A LOW COST



#### PROVEN DESIGN THAT LOWERS YOUR COSTS

The 990 Millyard uses all the highly durable structures, the advanced controls, and the efficient, long-life powertrain of the standard machine but provides the perfect tools and systems for forestry operations.



#### THE RIGHT TOOLS FOR EVERY JOB

Different fork designs with differing clamp and tine arrangements give you the right tool for any load, from individual logs to massive bundles. Open, high-visibility designs allow operators to work more efficiently and safely. Optional front camera improves visibility to the front of the worktool.



#### ADDED STRENGTH TO MOVE MORE

Unload a typical full-length log truck in a single pass with the larger lift and tilt cylinders and a unique tilt lever to maximize linkage force. Designed with increased lift and tilt capacity over the standard 990.



## PURPOSE BUILT FOR THE HOTTEST CONDITIONS

Harsh steel mill environments can be tough on even the most durable machines, but this 990 has features that maximize uptime and ensure safety for the machine and operator. It is equipped with extra heat protection to axle seals, key hoses, and harnesses for improved reliability, and the transmission and parking brake override controls for enhanced operator safety.



## THE 990 STEEL MILL ARRANGEMENT

WORLD-CLASS SAFETY AND OPERATOR COMFORT

# TECHNICAL SPECIFICATIONS

See [cat.com](http://cat.com) for complete specifications.

ENGINE		
Engine Model	Cat® C27	
Emissions (Option 1)	U.S. EPA Tier 4 Final/ EU Stage V	
Rated Speed	1,800 rpm	
Engine Power – ISO 14396:2002	586 kW	786 hp
Gross Power – SAE J1995:2014	597 kW	801 hp
Net Power – SAE J1349:2011 (Standard Ambient)	546 kW	732 hp
Net Power – SAE J1349:2011 (High Ambient)	508 kW	681 hp
Emissions (Option 2)	Noncertified configuration that is equivalent to U.S. EPA Tier 2	
Rated Speed	1,800 rpm	
Engine Power – ISO 14396:2002	561 kW	752 hp
Gross Power – SAE J1995:2014	571 kW	766 hp
Net Power – SAE J1349:2011 (Standard Ambient)	521 kW	699 hp
Net Power – SAE J1349:2011 (High Ambient)	483 kW	648 hp
Bore	137.2 mm	5.4 in
Stroke	152.4 mm	6.0 in
Displacement	27.03 L	1,649.5 in <sup>3</sup>
Peak Torque @ 1,200 rpm – SAE J1995:2014	3557 N·m	2,624 lbf·ft
Torque Rise	18%	

- Net power advertised is the power available at the flywheel when the engine is equipped with fan at minimum speed, air intake system, exhaust system, and alternator.

OPERATING SPECIFICATIONS		
Operating Weight – Standard	80 974 kg	178,517 lb
Rated Payload – Standard	15.9 tonnes	17.5 tons
Rated Payload – High Lift	15.9 tonnes	17.5 tons
Bucket Capacity Range	8.6 m <sup>3</sup> - 10.0 m <sup>3</sup>	11.25 yd <sup>3</sup> - 13.0 yd <sup>3</sup>
Cat Truck Match – Standard	773-775	
Cat Truck Match – High Lift	775-777	

HYDRAULIC SYSTEM – LIFT/TILT		
Lift/Tilt System – Circuit	Positive flow control	
Lift/Tilt System	Variable displacement piston	
Maximum Flow at 1,800 rpm	910 L/min	240 gal/ min
Relief Valve Setting – Lift/Tilt	33 000 kPa	4,786 psi
Cylinders, Double Acting: Lift, Bore and Stroke	235 mm x 1287 mm	9.3 in x 50.7 in
Cylinders, Double Acting: Tilt, Bore and Stroke	292.1 mm x 820 mm	11.5 in x 32.3 in
Pilot System	Open loop and pressure reducing	
Pilot Relief Setting	3500 kPa	507 psi

HYDRAULIC CYCLE TIME	
Rack Back	4.3 seconds
Raise	8.6 seconds
Dump	2.9 seconds
Lower	3.7 seconds
Lower Float Down	3.7 seconds
Total Hydraulic Cycle Time (empty bucket)	13.8 seconds

HYDRAULIC SYSTEM – STEERING		
Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Piston, variable displacement	
Maximum Flow at 1,400 rpm	364 L/min	96.2 gal/min
Relief Valve Setting – Steering	34 500 kPa	5,004 psi
Total Steering Angle	70°	

AIR CONDITIONING SYSTEM	
<ul style="list-style-type: none"> <li>• The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas.</li> <li>• If equipped with R134a (Global Warming Potential = 1430), the system contains 2.7 kg (5.9 lb) of refrigerant which has a CO<sub>2</sub> equivalent of 3.861 metric tonnes (4.256 tons).</li> </ul>	

AXLES	
Front	Fixed
Rear	Trunnion
Oscillation Angle	8.5°

SOUND	
<b>Tier 4 Final/Stage V</b>	
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	116 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	114 dB(A)*
<b>Tier 2</b>	
Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	116 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	114 dB(A)*

- \*Sound suppression equipped
- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.

# STANDARD & OPTIONAL EQUIPMENT

Standard and optional equipment may vary. Consult your Cat® dealer for details.

ELECTRICAL	STANDARD	OPTIONAL
Alternator, 150 amp	•	
Converter, 10/15 amp, 24V to 12V	•	
Deutsch component connectors	•	
Electrical system, 24V	•	
Electronic transmission control	•	
Ground level starter lockout	•	
Ground level transmission lockout	•	
Lighting system, LED (front and rear) lighting, access stairway, engine compartment	•	
Auxiliary jump start receptacle	•	
OPERATOR ENVIRONMENT	STANDARD	OPTIONAL
Air conditioner and heater with automatic temperature control	•	
Cab precleaner, powered	•	
Cab, sound suppressed and pressurized, with external rollover protective structure/ falling objects protective structure (ROPS/ FOPS)	•	
Cat Detect, object detection system		•
Cat Vision, rear vision camera system	•	
CB radio ready	•	
12-volt power port	•	
Electro-hydraulic tilt and lift controls (seat mounted)	•	
Flip-up armrest	•	
Heater and defroster	•	
Implement hydraulic lockout	•	
Instrumentation, gauges displaying key temperatures and fluid levels	•	
Instrumentation, warning indicators: action alert system displaying key status and alerts vital to the machine	•	
Keypad control with indicator lights	•	
LED warning strobe		•
Mirrors, heated		•
Handrail mounted mirrors	•	
Premium seat with heated and actively cooled leather, adjustable lumbar support, air adjustable bolsters on the seat and backrest, seat cushion tilt adjustment, and adjustable-length seat cushion	•	
Radio, AM/FM/CD/MP3/Bluetooth®		•
Seat belt minder	•	
Seat belt, retractable, 76 mm (3 in) wide	•	
Steering and Transmission Integrated Control (STIC™) system with steering lock		•
Trainer seat with lap belt	•	
Vital Information Management System (VIMS™) with graphical information display: external data port, customizable operator profiles, cycle timer, integral Cat Production Measurement	•	
Wet-arm wipers/washers (front, rear, and corner) intermittent front wiper	•	

POWERTRAIN	STANDARD	OPTIONAL
Antifreeze, -50° C (-58° F)		•
Autolube – linkage, cylinder, and hitch pins		•
Axle oil cooling		•
Axle-shift oil-disc service brake	•	
Brakes, oil-disc, full hydraulic, enclosed	•	
Cat Clean Emission Module (CEM) – Tier 4 only	•	
Deluxe hydraulic filtration		•
Electro-hydraulic parking brake	•	
Engine, C27	•	
Engine block heater 120V or 240V		•
Engine oil change system, high speed, Wiggins		•
Fuel lines, heated		•
Fuel priming pump (electric)	•	
Ground level engine shutdown switch	•	
High ambient cooling – software		•
Hydraulic oil, Arctic -40° C (-40° F)		•
Mufflers (under hood) – Tier 2 equivalent only	•	
Precleaner engine air intake	•	
Radiator, aluminum modular radiator (AMR)	•	
Ride control		•
Secondary steering		•
Separated cooling system	•	
Starting aid, ether, manual override	•	
Torque converter, impeller clutch (ICTC) with lock-up clutch (LUC), rimpull control system	•	
Transmission, 534 mm (21 in) planetary power shift (electronic) (3F/3R)	•	
OTHER	STANDARD	OPTIONAL
Ground level service center with centralized drain and fill quick disconnect ports	•	
OTHER OPTIONAL CONFIGURATIONS	STANDARD	OPTIONAL
Millyard		•
Steel mill		•

For more complete information on Cat products, dealer services and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com).

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

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Build Number: 11A and 11B  
(Global)

