



980G
Series II
Wheel Loader

CAT[®]

Cat[®] 3406E EUI ATAAC diesel engine

Flywheel power 232 kW/311 hp

Maximum flywheel power 238 kW/319 hp

Bucket capacities 3.8 to 5.7 m³

Operating weight 30 200 kg

980G Series II Wheel Loader

Setting the standard for wheel loader productivity, serviceability and styling.

Engine

- ✓ *Cat 3406E ATAAC diesel engine* is built for performance, durability, excellent fuel economy, low sound levels and it meets the European Union emission regulations through 2005. This innovative engine features Caterpillar's exclusive Advanced Diesel Engine Management (ADEM-III) electronic control module for advanced troubleshooting and diagnostic capabilities. *Temperature sensing on-demand fan* slows fan speed when temperatures are low – providing a constant net power and improving fuel efficiency. **pg. 4**

Hydraulics and Operator Controls

Enhanced, low-effort operator controls for steering, shifting and bucket loading precisely respond to operator input. Operator controls are configured with Command Control steering with stick on the wheel and electro-hydraulic implement controls. **pg. 8-9**

Electronic Transmission

- Designed for durability, the Caterpillar power shift transmission features a full match, high capacity torque converter and heavy-duty planetary drives.
- ✓ *Variable Shift Control* allows the operator to match the shift pattern to the application, improving operator comfort and fuel efficiency.
 - ✓ *The Integrated Braking System* integrates a downshifting and neutralizer logic into the left-hand brake pedal. *Free Wheel Stator torque converter* increases efficiency thus lowered oil temperatures and improved fuel economy. **pg. 5 and 16**

Operator Station

- ✓ *Redesigned cab* provides improved operator comfort with new Caterpillar air suspension seat. *Enhanced dash panel* layout with upper right panel provides ergonomically positioned gauge indicators and switches.
- ✓ *Wider front windshield* with a larger wiper sweep for a cleaner window resulting in better visibility. **pg. 10**

Axles

- Large, heavy-duty axles protect internal components from the harsh environment and offer excellent serviceability. The design meets the demands of Ride Control and autoshift that often result in higher speed load and carry applications.
- ✓ *An external axle oil cooler is available for use in "high energy" applications.* **pg. 6**

Structures

Articulated frame design features a durable box-section engine frame and rigid four-plate loader tower. Over 90 percent robotically welded, frame joints feature welds with deep plate penetration and excellent fusion for maximum durability and fatigue strength. **pg. 7**

Performance you can feel with the capability to work in the most demanding applications. Unmatched operator comfort and efficiency in a world class cab with revolutionary electronics and hydraulics for low-effort operation and increased productivity.

- ✓ *New features*



Buckets and Ground Engaging Tools

Choose from a variety of Caterpillar Buckets and Work Tools to match your job conditions and with Command Control steering and fingertip bucket controls, productivity is increased.

pg. 14

Versatility and Application Match

Obtain excellent performance in a variety of applications when using the appropriate bucket or work tool, along with payload and bucket matching.

pg. 12

Serviceability

The 980G Series II offers unmatched serviceability with ground level access to all routine daily maintenance points. Lockable, ground-level service doors prevent tampering with service areas.

pg. 18

Environmental Machine

Availability of Cat biodegradable hydraulic oil, combined with easy serviceability help you meet or exceed worldwide regulations and protect the environment. Axle ecology drains (optional), avoiding oil spillage.

pg. 13

Preventive Maintenance

- ✓ Thanks to the new *Electronic Monitoring System*, the *Electronic Technician*, the *Scheduled Oil Sampling analysis* and the *Caterpillar Product Link system*, you can anticipate potential problems and avoid unscheduled repairs.

Complete Customer Support

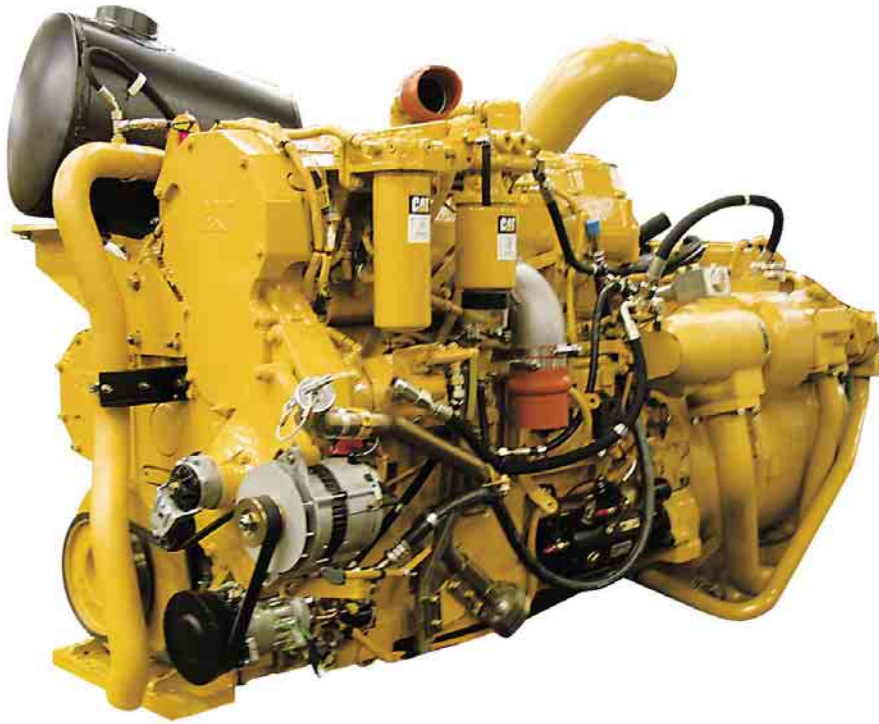
Your Caterpillar dealer offers a wide range of services, including worldwide parts availability and literature support, that help you operate longer with lower costs.

pg. 17



Cat 3406E ATAAC Engine

The six-cylinder, direct injection, turbocharged and air-to-air aftercooled engine is built for power, reliability, low maintenance, excellent fuel economy and low emissions.



Powerful performance. The 3406E six cylinder electronic engine delivers, at the rated speed of 2000 rpm, flywheel power of 232 kW (311 hp), and meets the European Union emission regulations. This innovative engine provides excellent fuel economy and durability which can significantly reduce operating costs.

Electronic Unit Injector (EUI).

The Electronic Unit Injector is a high-pressure, direct injection fuel system that is virtually adjustment-free. It electronically monitors operator and sensor inputs to optimize engine performance.

Advanced fuel system. The advanced Diesel Engine Module (ADEM III) fuel system is a Caterpillar exclusive electronic control module which provides improved engine response, performance, fuel efficiency, troubleshooting, diagnostics, and reduced emissions. The ADEM III electronic engine control improves altitude capability to 3600 meters without deration and allows integration with the electronic transmission control for maximum power train efficiency.

Turbocharged and Air-to-air aftercooled.

Turbocharger packs more dense air into the cylinders for more complete combustion and lower emissions improving performance and engine efficiency. These benefits are especially useful at high altitudes. Air-to-air aftercooler reduces smoke and emissions by providing a cooler inlet air for more efficient combustion. This also extends the life of the piston rings and bore.

Cooling system. It features an electronically controlled continuously variable on-demand fan. Fan speed is determined by engine coolant, transmission oil, hydraulic oil, and inlet manifold temperatures. Cooler operating conditions mean lower average fan speeds resulting in reduced fuel consumption, lower noise levels, and less radiator plugging. The electronic engine control continuously compensates for this varying fan load providing constant net horsepower for consistent power regardless of operating conditions. Hydraulic oil cooler, air conditioner condenser, and rear grill are all hinged for easier cleaning. Side panels allow access to both sides of all cores for easier cleaning.

Caterpillar engine oil. It is formulated to optimize engine life and performance and is strongly recommended for use in Cat diesel engines. The engine oil change interval is increased to 500 hours.

Factory remanufactured parts.

A large choice of factory remanufactured parts and dealer proposed repair options increase machine availability and reduce total repair costs.

Electronic Transmission

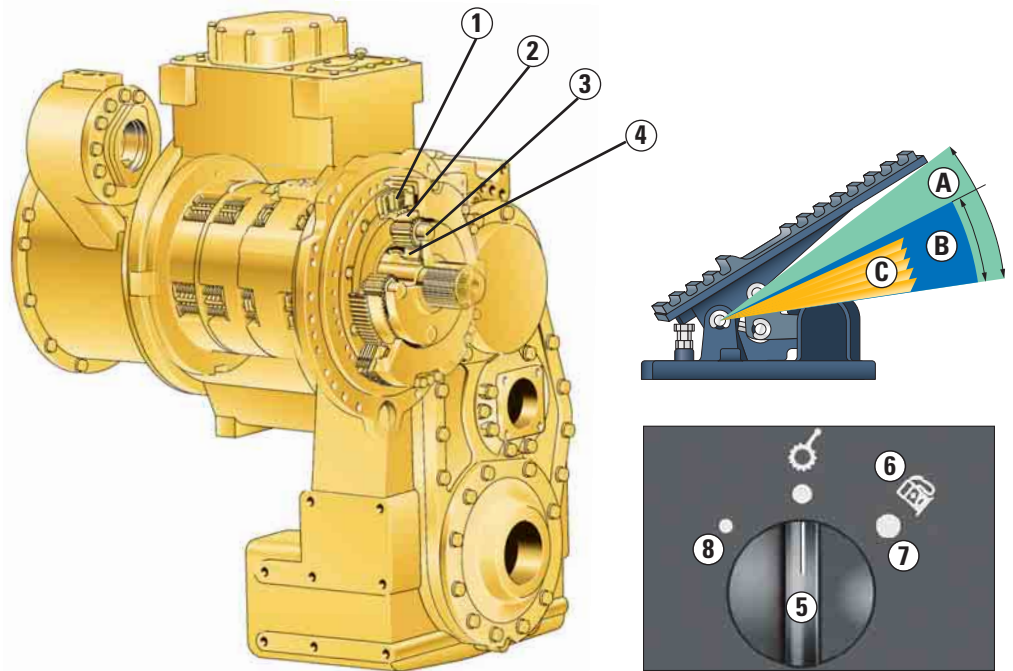
Caterpillar power train makes dependable performance a standard feature.

Transmission. The Caterpillar planetary, power shift transmission features heavy duty components to handle the toughest jobs. Electronic controls provide features to enhance productivity, durability and serviceability.

- Heavy duty transmission with 432 mm extreme service four planet drive in first gear and 345 mm heavy duty four planet drives in 2-4 gears. The torque converter uses a high-capacity impeller to handle the engine's increased power.
- The flywheel interface uses a long spline oil dam, and the pump drive and output transfer use high contact gear ratios to reduce sound levels.
- Perimeter-mounted, large diameter clutch packs control inertia for smooth shifting and increased component life.
- Electronic Autoshift transmission increases operator efficiencies and optimizes machine performance. The operator can choose between manual or autoshift modes. And, by using the left brake pedal, the operator can engage the adjustable neutralizer, maintaining high engine rpm for full hydraulic flow.

Transmission neutralizer.

It allows the operator to disengage the transmission clutches, removing torque from the drive train. With the neutralizer, high engine rpm's are maintained for full hydraulic flow and brake drive through is prevented.



1 Clutch packs

2 Ring gear

3 Planet gears

4 Sun gear

Integrated Braking System.

It integrates a downshifting and neutralizer logic into the left-hand brake pedal. This system translates into increased performance/productivity for the operator thanks to the optimized transmission neutralizer, the automatic downshifting and downhill retarding feature. The Integrated Braking System also lowers the owning and operating costs thanks to reduced axle oil temperatures, which can extend the brake life.

A Downshift logic only

B Brake application initiated

C Self-adjusting transmission neutralization

5 Variable Shift Control. A transmission software which allows the operator to select three different shift patterns based on his application and operating preference. This feature reduces fuel consumption depending on the application. In all modes, the full machine power remains available for loading.

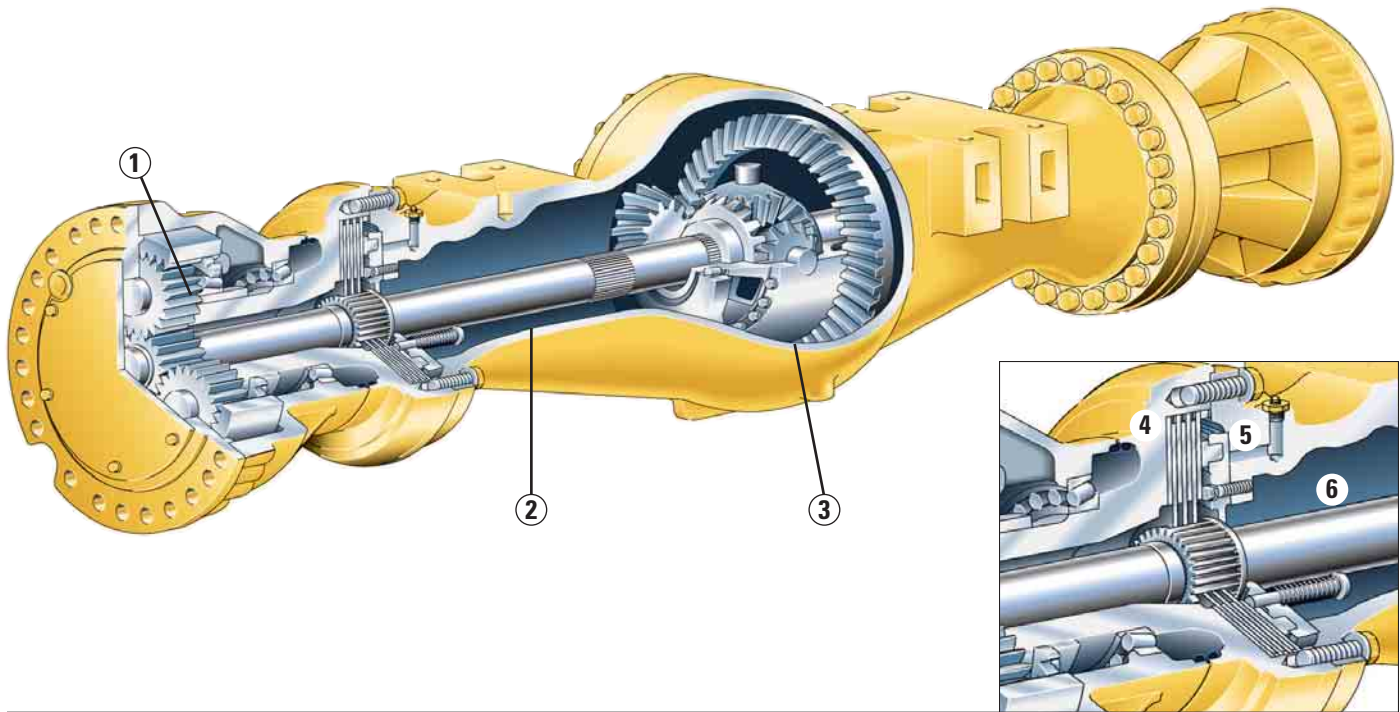
6 ISO symbol for fuel efficiency

7 Economy mode (typically used for load and carry and roading applications)

8 Aggressive mode (typically used for tight truck loading applications)

Axles

Large, heavy-duty axles protect internal components from the harsh environment and offer excellent serviceability.



Heavy Duty Axles. The heavy duty axles feature stronger gears and bearings in both the differentials and final drives for increased durability. Permanently lubricated maintenance-free U-joints and redesigned final drives result in fewer parts and improved serviceability.

- Larger, shot peened gears and increased bolt capacity improve the durability of the standard differentials. Axle shafts are stronger and feature more splines to help spread the load.
- Redesigned spindles and final drives reduce the number of parts and greatly improve serviceability, allowing easier access to the Duo-Cone Seals without removing the center housing from the machine.
- Optional front and rear limited slip differentials provide maximum traction in poor underfoot or uneven floor conditions by diverting torque to wheels with better traction.

External Axle Oil Cooler. An external core style axle oil cooler (AOC) is available as a factory installed attachment for the 980G Series II. The axle oil cooler is for use in “high energy” applications, such as long distance load and carry in high ambient temperature conditions. With the availability of IBS, it is estimated that very few applications (five percent or less) and conditions will require AOC. In order to provide flexibility for the installation of AOC after delivery, Caterpillar offers an AOC ready package. This factory available option provides pre-drilled and tapped axle housings, along with pre-routed internal steel lines, which are required for internal axle oil transfer. The AOC ready package greatly reduces the time and expense of field installing an axle oil cooler kit.

Brakes. Braking can occur using either of the cab floor-mounted pedals. The left pedal also serves as the neutralizer and activates the IBS. This system eliminates the need for an air compressor and dryer, reducing the number of components and further improving reliability.

1 Final drives

2 Axle shafts

3 Differential

4 Oil-cooled disc

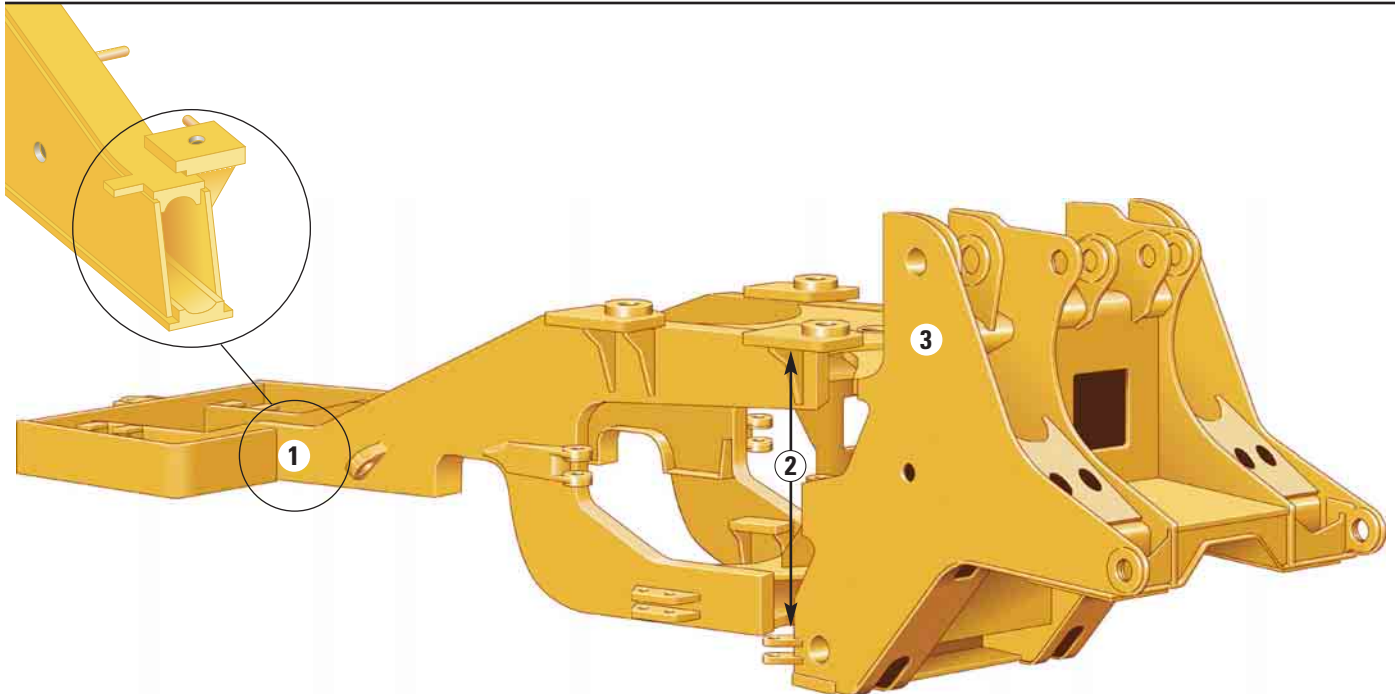
5 Hydraulic piston

6 Increased brake oil flow

External port. An external port (patented) provides access to measure brake disc wear without disassembling the axle. The original brake measurement is recorded in the machine controls at the factory to allow precise wear calculation and schedule appropriate service.

Structures

Built with strength to handle severe loads and durability to provide years of service.



Superior Structures. Caterpillar uses advanced processes to design and build superior structures. Robotic welding produces higher quality, deeper penetrating welds for more durable frames, lift arms and linkages.

1 Full box-section frame. Resists twisting and impact forces to provide a solid foundation for the engine, transmission and axles.

2 Spread-hitch design. Widens the distance between upper and lower hitch plates to distribute forces and increase bearing life. Thicker hitch plates and butterfly supports reduce deflection. The wide opening also provides good service access.

3 Four-plate loader tower. Provides a solid mount for lift arms, lift cylinders and Z-bar tilt lever. This structure is built to absorb severe twisting, impact and loading forces.

Solid steel lift arms. Provide superior strength with great visibility to the front end. The new design offers increased dump clearance and longer reach for more productivity.

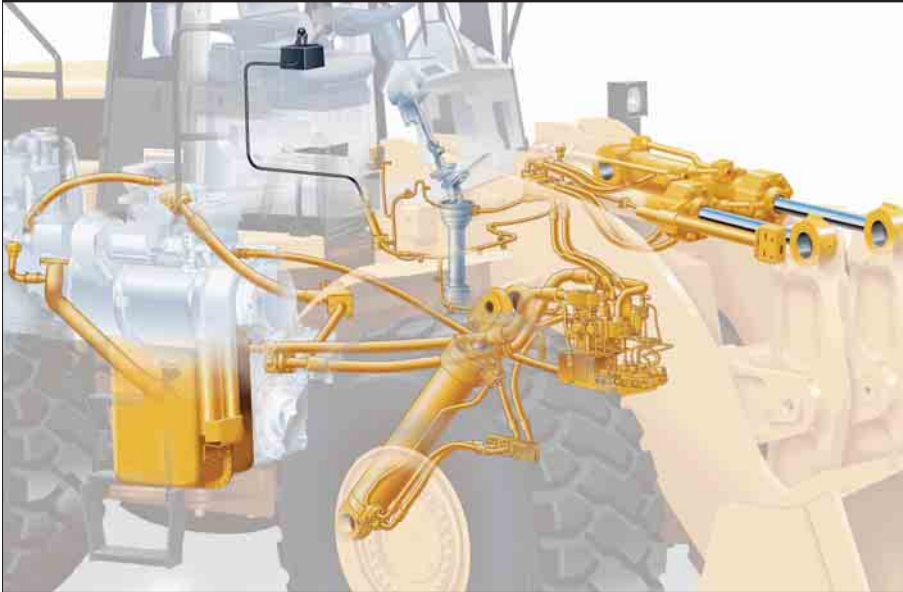
Heat treated, cast-steel cross tube. Provides excellent resistance to torsion and impact loads, keeping pin bores well aligned.

Linkage. Lift arms are solid steel, providing superior strength with an excellent front end viewing area. The proven design offers excellent dump clearance and reach for exceptional matching to both on- and off-highway trucks. Z-bar linkage generates excellent breakout forces and good rack back angle for better bucket loading and material retention.



Hydraulics

Well balanced hydraulics deliver precise, low-effort control and trouble-free operation.



Low-effort Electro-hydraulic controls.

Allow the operator to precisely maneuver bucket lift and tilt. Packaged together with Command Control steering, offer extremely low “finger-tip” lever efforts and unparalleled steering comfort. Automatic lift and tilt kickouts are switch-adjustable from the seat to easily meet application requirements, allowing the operator to set and adjust the raise, lower, and tiltback kickout. The lift and tilt kickouts are hydraulically cushioned for greater operator comfort and less material spillage. The electro-hydraulic controls offer additional enhancements available for the first time with the 980G Series II. The improvements include “bucket dump rate control” for smooth flow of material from the bucket and a switch for “fine modulation control” to provide precise control for delicate bucket or work tool operations.

Smooth, efficient steering.

Load sensing steering maximizes machine performance by directing power through the steering system only when needed. When the machine is not steering, more engine power is available to generate rimpull, breakout and lift forces. Load sensing reduces horsepower draw by up to 8 percent, resulting in increased fuel economy. Large-bore steering cylinders allow responsive maneuverability.

Hydraulic pumps. Perform with high efficiency and great reliability. High flow rates result in fast hydraulics, for an optimum balance between machine ground speed and hydraulic lift speed, especially important in tight truck loading.

Pressure taps. Remote pressure taps are available to make diagnosis even easier and faster and diagnose hydraulic system components.

Caterpillar’s XT hose and couplings.

Uniquely designed and tested to work together as a system for superior performance. Hoses are engineered and manufactured for high abrasion resistance, excellent flexibility and easy installation. Caterpillar couplings use pre-installed O-ring face seals which provide positive sealing for durable, leak-free connections. Reliable components reduce the risk of leaks, helping protect the environment.

Advanced Automatic Ride Control

attachment. It helps operators perform better. A nitrogen over oil piston-type accumulator in the hydraulic lift circuit acts like a shock absorber for the bucket or work tool when traveling over rough ground. This reduces fore and aft pitch for a smoother, more comfortable ride. It also gives operators the confidence to travel at higher speeds during load and carry cycles improving cycle times, load retention and productivity.

Caterpillar hydraulic oil.

Maximum protection against mechanical and corrosive wear in all hydraulic systems. Its high zinc content reduces wear and extends pump life. Provided certain requirements are met (e.g. S•O•S analysis every 500 hours), the hydraulic oil change interval is extended from 2000 hours to 4000 hours.

Operator Controls

Low-effort controls ease machine operation for increased comfort and efficiency.

Control configurations. The 980G Series II is equipped exclusively with Command Control steering.

1 Command Control steering. Allows one hand operation of steering and transmission controls. Turning the Command Control steering plus or minus 35 degrees, left or right, from centerpoint, achieves full machine articulation. Steering stops are hydraulically cushioned. Tilt and telescoping steering column helps fit the controls to the operator.

2 Integrated transmission controls. They are part of the steering design. Select forward, neutral or reverse with the three position rocker switch. Use the thumb-operated rocker switch to manually up-shift and downshift.

3 Finger tip implement control levers. Require low operator effort and reduced travel. Operator can slide the right-hand armrest and control pod forward and back as a unit, and adjust the armrest cushion up and down to find the most comfortable position.

Electronic transmission mode switch. Allows the operator to concentrate on the work, not on gear selection. The operator selects either manual mode or auto mode. In auto mode, the operator can choose the highest gear the transmission will automatically up-shift to (2nd, 3rd or 4th) using the console-mounted switch. The transmission up-shifts (depending on the selected Variable Shift Control mode) so that each shift occurs at optimum torque and ground speed.



Dual-pedal braking. It lets the left pedal function as a brake, incorporating the Integrated Braking System, but also integrates a transmission neutralizer and an automatic downshift logic (see also pg. 5). The right pedal functions as a regular brake. With the neutralizer, the operator can maintain high engine revolutions for full hydraulic flow.

Transmission neutralizer lockout. It lets the operator shut the neutralizer off. This provides a choice to operators who prefer to operate without a neutralizer. It also provides excellent inching capability for utility work.

Operator Station

The ultimate in wheel loader operator comfort and efficiency.



The ultimate in wheel loader operator comfort and efficiency.

The new 980G Series II cab, builds on the G-Series reputation for operator comfort with several enhancements. The cab includes outstanding visibility, ergonomic automotive-style controls placement, improved ventilation and generous storage areas.



1 Command Control steering.

It features a steering wheel with integrated transmission controls. Ergonomically integrated into the controls are two rocker switches, one for the forward/neutral/reverse selection, the other for manual up/down shifting. Load-sensing steering matches steering response to application requirements. Tilt and telescopic steering column helps fit the controls to the operator.

2 Excellent viewing in all directions.

The wider front window opens the operators view for remarkable forward and peripheral viewing including machine wheels and bucket corners. It also increases the area cleared by the windshield wiper. Bonded glass in the windshield eliminates frame obstructions. The stylish, sloping hood improves the view to the rear by letting the operator see objects closer to the machine. The larger roof improves water run-off and provides better protection against glare.

3 Finger tip controls. Electro-hydraulic, finger tip, implement controls feature low effort, precise hydraulic modulation capability. The controls are seat-mounted and adjustable for outstanding ergonomics.

4 Hydraulic control lockout switch.

It disables the hydraulic levers to prevent accidental (dis)engagement.

5 Fine modulation mode. For precise work tool control.

6 Automatic lift/tilt kickouts. Part of the electro-hydraulic controls, adjust from inside the cab with a simple rocker switch. Kickout stops are hydraulically cushioned for greater operator comfort and less material spillage.

7 980G Series II new Monitoring System.

It consists of gauges, tachometer/speedometer and 4-level warning to ensure full time monitoring of key functions. The system alerts the operator of immediate or impending problems with engine oil pressure, parking brake, axle oil pressure, electrical system, brake oil temperature, hydraulic oil level, hydraulic filter bypass, engine inlet manifold temperature, primary and secondary steering oil pressures. Indicators consist of LED (Light Emission Diodes) with no bulbs to replace.

8 Left, rear-hinged door. It includes a sliding window. The re-designed door latch allows the operator to open/close the door either from ground level or when seated in the cab. The right-side plain glass window provides outstanding visibility to the side of the machine and serves a secondary exit if needed. The window opens partially for additional ventilation.

9 Dual brake pedals. Incorporates Integrated Braking System that serve brake, transmission neutralizer and downshift functions so the operator can maintain high engine revolutions for full hydraulic flow and high productivity.

10 Generous storage space

- Coat hook.
- Molded compartments for lunch-box, cooler, thermos, cup or can.

11 New Caterpillar Comfort air suspension seat. Standard on the Command Control steering version and optional on the Conventional steering wheel version, 6-way adjustable. The seat cushions reduces pressure on the lower back and thighs, while offering unrestricted arm and leg movement. Air suspension adds to overall comfort by smoothing the ride over rough terrain. Seat is equipped with a 76 mm retractable seat belt.

12 Improved ventilation. Better air flow to the operator and windows. There are thirteen louvered vents with two on each door post. A large re-circulation filter ensures better air quality and contributes to operator comfort.

13 Electronic transmission mode switch. Settings from manual to fully automatic.

14 Ride Control System switch. Allows the selection of three different modes:

- Off: permanently off service.
- On: permanently in service.
- Auto: in this mode, the system is automatically actuated when the machine travels at a speed greater than 9.7 km/h (which is adjustable) and will be turned off below 9.7 km/h.

15 Transmission neutralizer lockout switch. A momentary rocker that defaults to neutralizer active upon machine start up.

16 Radio ready. It includes a 12-volt converter (10-amp), speakers, antenna, all wiring and brackets for entertainment or communications radio installation.

17 Exterior rear-view mirror. Package includes two large, curved mirrors, solidly mounted on strong brackets to keep them well adjusted and avoid vibrations.

18 Variable Shift Control. Allows the operator to select three different shift patterns based on application and working preferences.

19 Improved floor. For easier cleaning.

Other options

- Air conditioning
- Internal mirrors
- Working lights
- Payload Control System
- Sliding window on right-hand side

Versatility and Application Match

Increase your productivity by performing a variety of jobs with one machine.

Matched payloads and matched buckets ensure optimum performance.



Truck match. The 980G is an aggressive 1st gear loader for face and bank excavation, but the versatility of a material handler was also designed into it. With increased rimpull and full match torque converter in second gear, the 980G Series II is an aggressive 2nd gear stockpile loader. With ample dump clearance, it can easily load on-highway trucks in 2-3 passes and off highway 36 metric-ton trucks in 4 passes.

Bucket match. General Excavation, Universal and Rock buckets available with various GET configurations. The 5.7 m³ General Excavation bucket can be used effectively in lighter materials ranging from 1300-1543 kg/m³ like crushed limestone. Depending on your material densities, choose a 5.4 m³ General Excavation bucket with bolt on cutting edge for even more stability.

Bank Excavation. In packed earth, clay and rocky material offers excellent breakout and bucket fill with first gear loading.

Rock Excavation. Excellent breakout force makes the 980G Series II an aggressive machine in rock excavation.

- Dump clearance allows loading of 36 tonnes off-highway trucks.
- Spade nose rock buckets feature two bolt corner guards and J400 teeth for better retention and added durability.
- Heavy-duty quarry buckets with additional protection are also available.

Material Handling. With more power, outstanding dump clearance and second gear performance, the 980G Series II loads both on- and off-highway trucks quickly and easily.

High Lift Arrangement (Option).

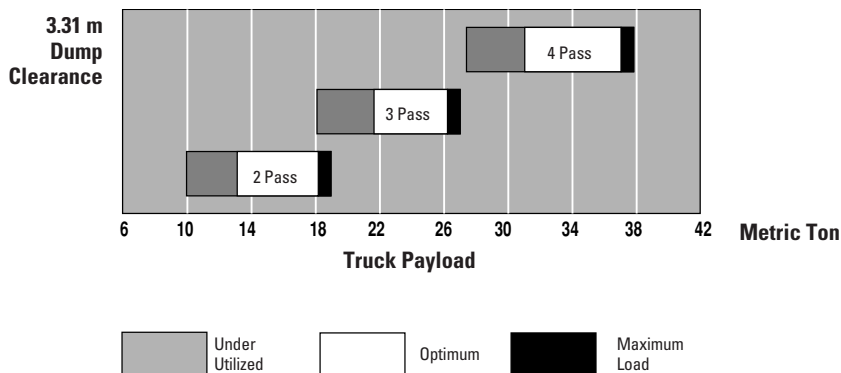
Provides an additional 221 mm of dump clearance for special dump clearance needs.

Forest Machine Arrangement (Option).

Choose from large capacity millyard and other job-matched forks to sort, load and deck logs and timber. Preset the automatic fork positioner at any angle to eliminate visual spotting. Use the low profile millyard fork with widely spaced tines to hold and stabilize tree-length logs.

Steel Mill Application Arrangement (optional).

Gives the added protection needed for extended life and lower operating costs in this rugged environment, including: additional guarding, chain clearance, extreme service transmission, fabricated rear bumper and counterweight, heavy-duty engine and transmission mounts, hydraulic hose protection, insulated battery mounting, raised engine air precleaner, remote engine shutdown, remote parking brake release, steel cable ladder, Steel Command Control steering shaft cover, transmission override, heavy-duty light guards, infra red rubber sealed windshields, metallic roof, Eco Safe hydraulics (optional). Slag buckets are also available.



Environmental Machine

Caterpillar cares about the environment and continues to develop innovative solutions.



Machine Features

- An on-demand fan (standard on all 980G Series II), which automatically regulates the fan speed depending on the cooling requirements.
- Additional sound insulation around the engine.
- Oil sampling valves and pressure test ports for service diagnostics.

These features result in reduced operating cost, quieter machine, and easier service.

Environmental Fluids

- Extended Life Coolant/Antifreeze with anti-foaming and anti-corrosion properties provides extended service intervals (up to 6000 hours) requiring less frequent fluid renewals and disposals. This is a standard feature.
- Cat Bio Hydo (HEES) is formulated from a fully saturated Hydraulic Environmental Ester Synthetic base stock and selected additives. It has excellent high-pressure and high-temperature characteristics. Provided a special water separator filter has been installed and depending on regular S•O•S analysis, Cat Bio Hydo (HEES) service intervals can be extended up to 6000 hours. It is fully compatible with our hydraulic components and allows operation over a broad temperature range. Cat Bio Hydo (HEES) is fully decomposed by soil or water microorganisms. This is available as an attachment.

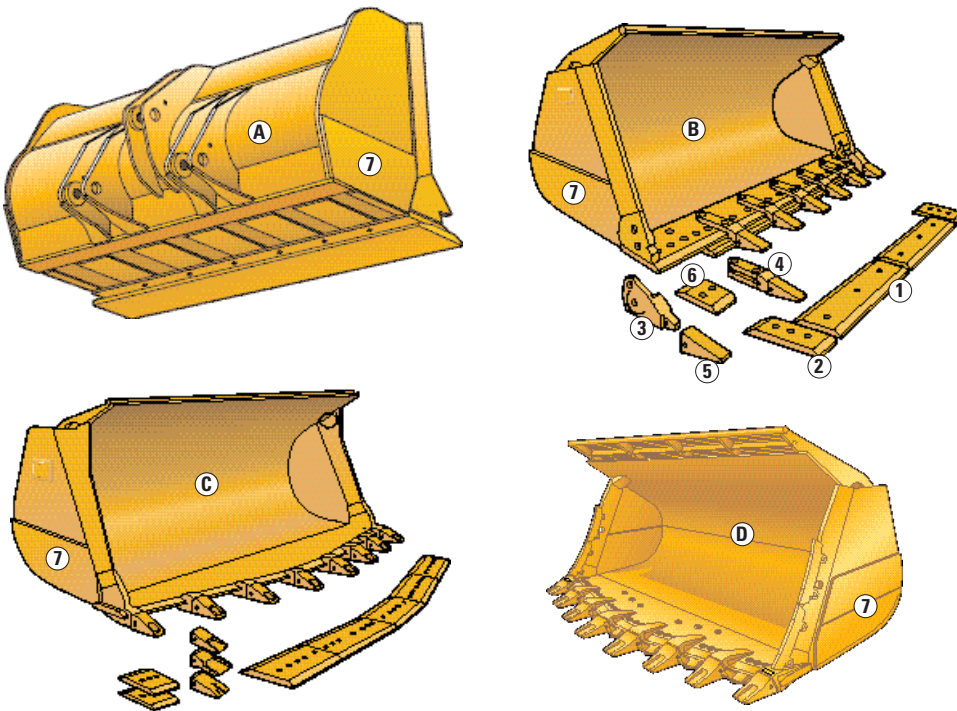
Fewer leaks and spills. Transmission and hydraulic oil filters, as well as engine oil and fuel filters are spin-on elements, positioned vertically and purposely located for a quick and easy access allowing their removal without fluid spillage. Lubricant fillers and drains are also designed to avoid spills.

Ecology drains. They are standard from factory for the engine, transmission, hydraulics, radiator and fuel. They replace the standard drain plugs. Activating the valve allows fluid to be drained into a container without spillage. Axle oil ecology drains are optional and allow quicker oil changes, eliminate spillage and reduce the time/risk of clean up.

Rebuildable components. Many of the major components used in the 980G Series II are designed for rebuildability. That means you have high-quality, remanufactured (REMAN) parts available to you at a fraction of the new component cost.

Cat Buckets and Ground Engaging Tools

Three bucket families and a large choice of Ground Engaging Tools maximize performance in all applications.



A Universal buckets with Back Grading Edge.

In this configuration, an additional full-width box-section profile with a wear edge is welded at the back of the bucket floor. The bucket base edge and the additional rear edge are at the same level, providing better grading capabilities. This bucket can be fitted with welded flush mounted adapters and tips still allowing excellent grading capability.

B General Excavation Buckets.

All General Purpose buckets have been renamed as General Excavation buckets to better reflect their application spectrum. Built to handle the toughest conditions, they feature a well proven, shell-tine construction design that resists twisting and distortion and are excellent for bank and excavation applications. Bucket hinges are part of a structure that extends under the bucket shell to the cutting edge, forming box sections. These structures act as protection against impact and twisting forces. All buckets have integral spill plates that prevent rear spillage,

keeping material away from the linkage. Replaceable through-hardened weld-on rear wear plates protect the bottom of the bucket for greater durability. Bucket side plates are also reinforced in their lower portion with additional wear plates for longer life.

C Rock Buckets. Cat rock buckets are built to tough standards. The spade-edge design provides easier penetration and makes them well suited to high-impact jobs. Ground Engaging Tools include bolt-on cutting edge or weld-on two straps adapters to be fitted with J400 tips, with or without standard or heavy-duty bolt-on segments.

D Heavy Duty Rock Buckets. They offer superior protection and durability. Specifically designed for the toughest quarry, aggregates and mining operations, these buckets are factory-modified with additional protection: Liner; dual sidebar protectors; inner and outer side wear plates; outer skid plates; base

edge, rear and hinge bracket wear plates; Heavy duty long life (A.R.M) corner adapters; Heavy duty adapters, tips and segments. Each protection item was carefully chosen in response to customer requests for bucket that delivers maximum strength, durability and wear life in high impact/high abrasion conditions. These components are designed to reduce down time and bucket-related operating cost to help you get the most from your machines.

Corner guard system allows maximum flexibility between teeth and edge systems for superior protection and performance in each application.

Bolt-on cutting edge (1) and end bits (2)

- Standard DH-2, reversible, for superior strength and wear life.
- Heavy-duty, reversible, providing 50% more wear life.
- Abrasion Resistant Material (ARM) with impregnated tungsten carbide is another option for maximum wear life in low-to-medium impact application.

Bolt-on teeth

- New two-bolt corner adapter (3) securely attached to prevent shifting.
- Bolt-on two-strap center adapters (4).
- Seven tip options with Heavy-duty retention system. (5).

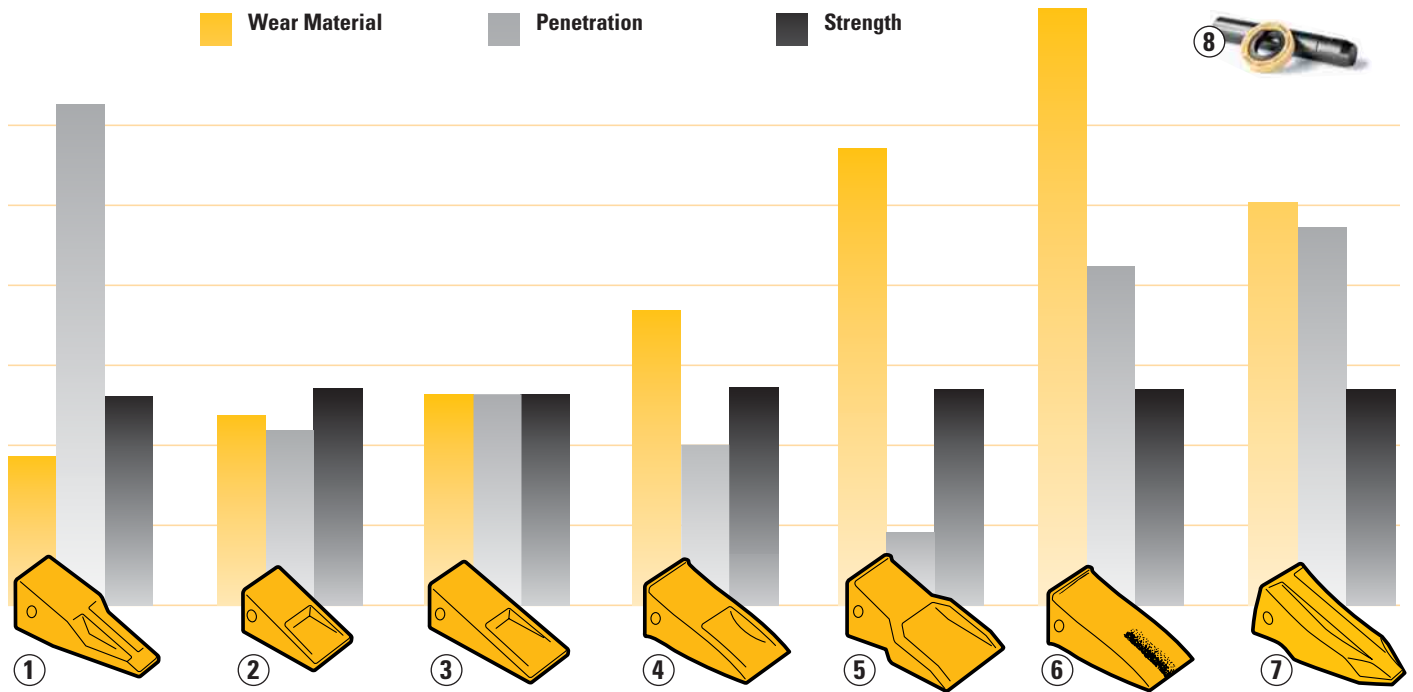
Bolt-on teeth and edge segments

- Standard reversible segments (6) protect the base edge between teeth, eliminating scalloping and maintaining a smooth work surface.
- Heavy-duty reversible segments for 50% more wear life.

Replaceable side wear plates (7) for greater durability.

Tip Selection and GET System Selection Guide

Seven tip options are available to provide the best combination of wear life, penetration and strength needed for each application.



1 Penetration

- Use in densely compacted material such as clay.
- Gives maximum penetration.
- Self-sharpening.

2 Short

- Use in high-impact and pry-out work such as rock.
- Extremely strong.

3 Long

- Use in most general applications where breakage is not a problem.

4 Heavy Duty Long

- Use in general loading and excavation work.
- Has extended wear life and greater strength.

5 Heavy Duty Abrasion

- Use when working in sand, gravel and shot rock.
- Maximum wear material.

6 Heavy Duty Long Life

- A.R.M. positioned to increase wear life and penetration.
- As the Heavy Duty Long Life tip wears, ease of penetration increases.

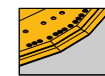
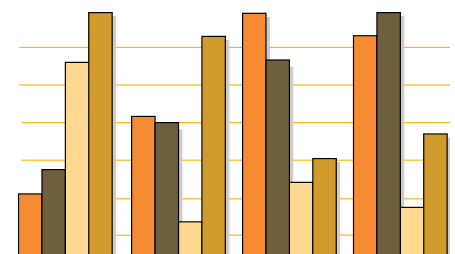
7 Heavy Duty Penetration

- Use in high-impact, hard-to-penetrate material.
- Extended wear life.
- Good combination of strength and wear life.

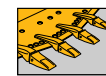
8 Heavy Duty retention system

Eliminates pin walking and the resultant tip loss in particularly severe loading conditions.

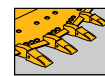
GET system selection guide



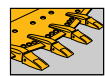
Cutting edges (bolt-on or weld-on)



Flushmount adapters



Bottom-strap adapters



Two-strap adapters

Penetration ability ■

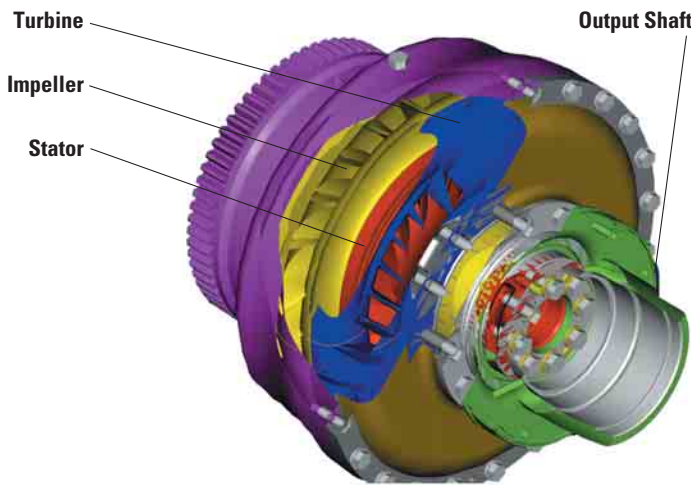
Impact resistance ■

Wear life/Abrasion protection ■

Smooth floor maintenance ■

Free Wheel Stator

Improves power train efficiency and contributes to reduced fuel consumption.



Free Wheel Stator Torque Converter.

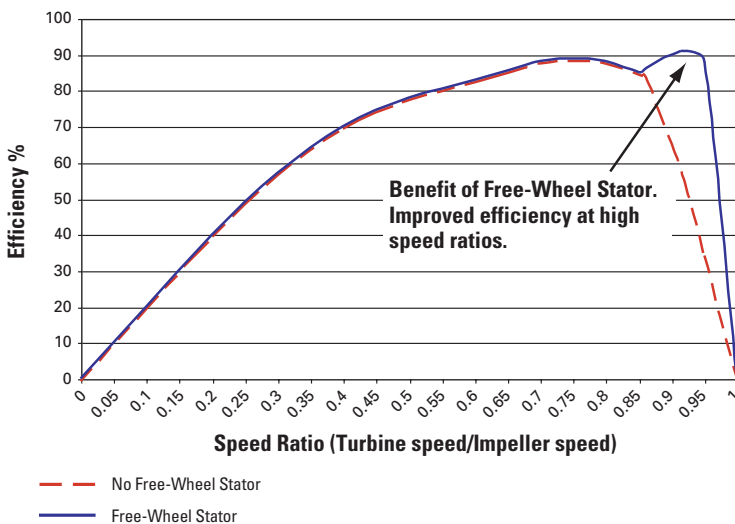
The 980G Series II features an optional Free Wheel Stator Torque Converter (FWSTC). A FWSTC improves machine power train efficiency in certain applications and contributes to the improved fuel efficiency of the 980G II. A torque converter provides a larger/broader output load potential than the engine can provide alone, reducing the need for very low speed gears and the number of gears required from a direct drive configuration.

Fixed Stator vs. Free Wheel Stator.

The engine output shaft drives the torque converter's impeller. The impeller accelerates the torque converter fluid from low to high velocity, adding kinetic energy to the fluid. This energy is given up to a turbine causing the fluid to lose speed. The force of the oil that hits the turbine blades causes the turbine to rotate, driving the output shaft (input to transmission). The stator is a stationary reaction member between the turbine and impeller. The stator redirects the flow of oil as it leaves the turbine to increase the fluid's momentum as it returns to the impeller, increasing the unit's torque capacity. In conditions where demand placed on the torque converter is not extreme (output torque requirements equal to or less than input torque) such as when ground speed is high and resistance is low (machine slowing from high speed), turbine speed will be high relative to impeller speed. Oil passing through the turbine may then strike the back of the stator blades, eliminating the stator's ability to redirect and increase the oil's momentum. As a result, the stator actually lowers the efficiency of the system by increasing drag. Free wheel stator allows the stator to turn in the same direction as the turbine in this condition, minimizing drag on the converter and increasing efficiency.

Benefits of Free-Wheel Stator

Example Torque Converter Efficiency comparison



Free Wheel Stator Benefits.

The graph represents the efficiency of a fixed torque converter relative to an equivalent converter with a free wheel stator. When the turbine/impeller speed ratio of the two converter types is below 0.85 they

perform virtually the same. Once the speed ratio exceeds 0.85, the benefit of a free wheel stator is realized through reduced drag in the torque converter. This higher efficiency results in increased fuel efficiency.

Complete Customer Support

Cat dealer services help you operate longer with lower costs.

Services. Customer Service is critical today in every business. That's why so many people buy Cat equipment. They know they are getting quality reliability and performance backed-up with the best Customer Service. Your Caterpillar dealer offers a wide range of services that can be set up under a Customer Support Agreement. The dealer will help you choose a plan that can cover the whole machine including work tools, to help you to get the best out of your investment.

Product Support. You will find a solution for your parts requirements at your dealer. Cat dealers utilize a worldwide network to find in-stock parts to minimize downtime. In addition your dealer can offer alternative solutions like Reman, Classic Parts and quality used parts to save money on original Caterpillar components.

Service Capability. Whether in the dealer's fully equipped shop or in the field, you will get highly trained service technicians using the latest technology and tools.

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



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

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

Operation. Improving operating techniques can boost your profits. Your Cat dealer has training material and ideas to help you increase productivity.

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

Serviceability

Keep machines up and running with easy-to-perform daily maintenance.



Maintenance. It has never been more accessible than on G-Series II machines. Fast, easy and reduced maintenance means improved uptime and greater value.

- Lockable, ground level service doors give quick access to engine oil fill and dipstick, coolant sight gauge, air filter indicator, rear grease fittings, and battery disconnect switch. Sight gauges for hydraulic and transmission oil levels are also easily viewable from the ground.
- Oil cooler and optional A/C condenser swing out, allowing quick easy cleaning of the engine radiator. The air flows first through the hydraulic oil cooler and the optional A/C condenser, then through the engine AMOCS radiator and is rejected through three perforated panels.
- Grouped remote grease fittings allow ground level access for lubricating tilt and steering cylinder pins and rear axle oscillation bearings.
- Caterpillar fluid filters are especially designed to assure maximum component life. The unique design uses non-metallic centertube and molded end-caps, which fully blend with media ensuring no internal leakage.

- Cat high efficiency fuel filters with STAY CLEAN VALVES™ feature cellulose/synthetic blend media that remove more than 98 percent of particles that are two microns or larger, maximizing fuel injector life.
- Caterpillar Radial Seal air filters do not require tools to service, reducing maintenance time. The ultra-high efficiency primary air filter element is coated with a fine layer of fibers that prevent dust particles from entering the filter media. This results in more efficient filtration, extended service intervals, and extended filter life – all contributing to reduced operating costs.
- Caterpillar Extended Life Coolant allows extended change intervals (6000 hours).
- Caterpillar maintenance-free, high output batteries are designed for high cranking power and maximum protection against vibration.
- Individual AMOCS Modular core radiator reduces time to repair or replace the radiator.
- G-Series II machines feature a brake wear indicator port.

Reliability and durability

- **Paint Process.** Great care is given to ensure a durable paint finish. Most brackets and other hardware are zinc-plated. Larger components are all prime painted, the cab receiving a zinc-phosphate based coating to prevent rust. The entire machine, as well as decals, is finish painted with a clear, two-component, polyurethane based paint which provides a durable, UV resistant, high gloss.
- **Electrical Systems.** Designed and manufactured to resist the most severe conditions. Harnesses are made of large-section, colored and number-coded wires, the complete harness being protected by an abrasion resistant braiding. Connectors are made of rugged thermoplastic or cast-aluminum shells, sealed against moisture and contaminants. Harnesses are properly routed and securely clamped to ensure their reliability and durability.

Sloped hood. It is electrically or mechanically activated, tilts up for complete access to the engine, cooling system and other major components. If needed, the hood can be removed quickly and easily by removing three pins and disconnecting a single harness connector. A built-in lifting point facilitates easy lift off.

Automatic Greasing System attachment.

It supplies the required quantity of grease at the right interval to the grease points automatically, without manual interference. It greases while the machine is in operation, resulting in better distribution of grease over the bearing surface. Also, the automatic greasing reduces downtime, repair and overhaul costs, safety and environmental hazards and greasing costs (up to 75%). The automatic greasing system is optional and being factory installed prior to final assembly.

Engine, transmission, hydraulic oils. Caterpillar engine, transmission and hydraulic oils deliver maximum performance and service life. The oil change intervals are extended to 500 hours for engine oil and 4000 hours for hydraulic oil (provided certain conditions are met) limiting service time and lowering owning and operating costs.

Factory remanufactured parts. A large choice of factory remanufactured parts and dealer proposed repair options increases machine availability and reduces repair cost.

Preventive Maintenance

By anticipating potential problems and avoiding unscheduled repairs, your equipment is always up and ready to run.

Electronic Monitoring System (EMS-III).

It monitors all key controls and functions. The system alerts the operator of immediate or impending problems with engine oil pressure, axle oil pressure, parking brake, electrical system, low fuel level, engine inlet manifolds temperature, brake oil temperature, hydraulic oil level, hydraulic filter and primary and secondary (if equipped) steering. In the service mode, the digital panel displays operating parameters, diagnostic codes and out-of-range gauge readings. It also calibrates the electronic lift and tilt controls as well as the electronic transmission controls.

More than 90 fault codes are already visible on the EMS-III screen in the cab. They are documented in the Operation and Maintenance Manual of the machine allowing you to identify directly where the potential defect has occurred.

- 1 ET software
- 2 Communications Adapter
- 3 Diagnostic Connector
- 4 Electronic Control Modul (ECM)

Caterpillar Product Link system

attachment. It includes a transceiver module (on-board the machine), office application PC software, and a satellite communications network to track machine hours, location, and warnings (PL-201). Product Link simplifies maintenance scheduling, fleet management, unauthorised machine usage or movement, and product problem event tracking and diagnosis (PL-201).

Available in two versions, there is a Product Link system for most customers needs. See your Caterpillar dealer for details.



Electronic Technician (ET).

Caterpillar Electronic Technician is a software program which allows the service technician to find and identify a problem on a machine and to analyze how to fix it quickly. ET provides him with the capability to access the Electronic Control Modules from a personal computer.

The Electronic Technician is used for:

- Viewing active and non active diagnostic codes and clearing them after repair.
- Displaying the status of all parameters such as engine speed, gear engaged, control levers position, control switch position, etc.
- Performing diagnostic test and calibrations of electro-hydraulic components.
- Viewing current configuration and changing parameter settings.
- Flashing new Caterpillar software in the Electronic Control Modules.
- Recording all parameters during machine operation.

A customer version of ET is also available for your fleet of Caterpillar equipment. Contact your Caterpillar dealer for more detailed information.

Scheduled Oil Sampling (S•O•S)

analysis. Caterpillar has specially developed S•O•S to help ensure better performance, longer life and increased customer satisfaction. It is an extremely thorough and reliable early warning system which detects traces of metals, dirt and other contaminants in your engine, axle, transmission and hydraulic oil. It can predict potential trouble early, thus avoiding costly unscheduled failures. Your Caterpillar dealer can give you results and specific recommendations shortly after receiving your sample.

Each S•O•S test can provide specific types of diagnostic:

- **Oil condition analysis** identifies loss of lubricating properties by quantifying combustion products such as soot, sulfur, oxidation and nitrates.
- **Wear analysis** monitors components wear by detecting, identifying and assessing the amount and type of metal wear elements found in the oil.
- **Chemical and physical test** detect the physical presence of unwanted fluids (water, fuel, antifreeze).

Engine

Four-stroke cycle, six-cylinder 3406E direct injected, turbocharged and air-to-air aftercooled diesel engine.

Power and Torque

Flywheel power at 2000 rpm	232 kW	311 hp
Maximum flywheel power at 1800 rpm	238 kW	319 hp
Maximum flywheel torque at 1150 rpm	1623 Nm	
Total torque rise	47%	

The following ratings apply at 2000 rpm when tested under the specified standard conditions:

Rated flywheel power	kW	hp
ISO 9249	232	311
EEC 80/1269	232	311

Dimensions

Bore	137 mm
Stroke	165 mm
Displacement	14.6 liters

Exhaust emissions

The 3406E meets the following emission requirements:
EU directive 97/68/EC Stage II

Power rating conditions

- net power advertised is the power available when the engine is equipped with on-demand hydraulic fan drive at maximum fan speed, alternator, air cleaner, and muffler
- no derating required up to 3600 m altitude

Features

- Caterpillar exclusive Advanced Diesel Engine Module (ADEM III) electronic fuel system control module is fully integrated with other electronic control modules on the machine for improved performance
- Caterpillar state-of-the-art electronically controlled, mechanically actuated unit injection fuel system
- air-to-air aftercooler
- electronically controlled continuously variable temperature-sensing on-demand fan is integrated with electronic engine control module
- four valves per cylinder, valves and unit injection system are camshaft-actuated
- two-piece articulated pistons with forged steel crowns and aluminium alloy skirts are oil cooled through dual cooling jets
- induction-hardened, forged crankshaft
- one-piece cylinder head design with four alloy-steel valves per cylinder
- deep-skirted cast cylinder block
- tapered connecting rods
- direct-electric 24-volt starting and charging system
- single control for both speed and direction
- separate control to lock in neutral
- single-stage, single-phase torque converter
- automatic shift capability
- F-37 high energy friction material provides extended clutch life
- externally mounted controls with quick disconnects for easy diagnostic checks
- high contact ratio gears are precision ground for quieter operation
- thumb operated upshift/downshift rocker switch
- transmission can be recalibrated using Electronic Technician (ET) service tool
- Variable Shift Control controlling the selected shift pattern

Transmission

Electronic planetary power shift transmission with automatic shift capability has four speeds forward and four reverse.

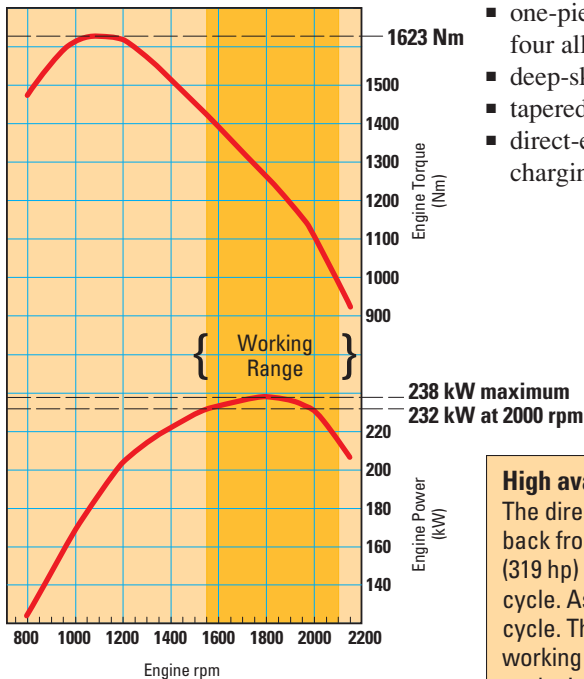
Maximum travel speeds (standard 29.5-R25 XHA L-3 tires)

Forward	km/h
1	7.1
2	12.6
3	22.0
4	37.4

Reverse

1	7.5
2	13.1
3	23.0
4	42.8

Features



High available Torque

The direct injected fuel system delivers a controlled increase of fuel as the engine lugs back from rated speed. This results in horsepower greater than rated power. The 238 kW (319 hp) maximum power occurs at 1800 rpm when power is needed during the working cycle. As the average torque is higher, more torque is available during the working cycle. The combination of more available torque and maximum horsepower in the entire working range improves response, provides greater rimpull, more lift force and faster cycle times.

Axles

Fixed front, oscillating rear ($\pm 13^\circ$).

Features

- maximum single-wheel rise and fall: 550 mm
- conventional differential is standard
- free-floating axle shafts can be removed independently from wheels and planetary final drives
- optional limited slip differentials front and rear

Brakes

Meet the following standard:
ISO 3450-1985.

Service brake features

- four wheel, hydraulic, oil cooled, multiple-disc brakes
- completely enclosed
- self adjusting with modulated engagement
- dual pedal braking system with transmission neutralization
- brake wear indicators on each wheel

Parking brake features

- spring applied, oil-released, dry drum brake
- mounted on transmission output shaft for manual operation
- electronic monitoring system alerts operator if transmission is engaged while parking brake is applied

Secondary brake features

- electronic monitoring system alerts operator if pressure drops and automatically diverts to the parking brake
- operator can apply manually

Final Drives

All Wheel drive.

Features

- planetary reduction at each wheel
- torque developed at the wheel, less stress on the axle shafts
- planetary units can be removed independently from the wheels and brakes

Hydraulic System

System is completely sealed. Innovative low-effort controls.

Implement system (standard), 2-section vane pump

Output at 2100 rpm and 6900 kPa with SAE 10W oil at 66°C	464 lpm
Relief valve setting	20 700 kPa
Cylinders, double acting: lift, bore and stroke	196.9 x 864 mm
Cylinder, double acting: tilt, bore and stroke	159 x 582 mm

Pilot system, gear-type pump

Output at 2000 rpm and 4310 kPa	38 lpm
Main valve setting	3450 kPa

Hydraulic cycle time (standard)

Raise	6.0
Dump	2.0
Lower, empty, float down	3.4
Total	11.4 seconds

Features

- completely enclosed system
- low-effort, electro-hydraulic pilot-operated controls

Cab

Caterpillar cab and Rollover Protective Structure (ROPS) are standard.

Features

- ROPS meets the following criteria:
 - ISO 3471:1994
- also meets the following criteria for Falling Objects Protective Structure:
 - ISO 3449:1992 LEVEL II
- corrosion-free roof cap

Linkage Controls

Lift circuit features

- four positions: raise, hold, lower and float
- in-cab, programmable high and low lift kickouts with cushioned stops

Tilt circuit features

- three positions: tilt back, hold and dump
- in-cab, programmable kickout for bucket angle load position

Controls

- two lever control (standard)
- three lever control (optional)

Load Sensing Steering

Full hydraulic power steering.

Features

- center-point frame articulation
- front and rear wheels track
- hydraulic power with flow-amplified system
- steering-wheel operated pilot valve controls flow to steering cylinders
- full-flow filtering
- adjustable steering column

Service Refill Capacities

	Liters
Fuel tank – dry fill	470
Cooling system	90
Crankcase	38
Transmission	70
Differentials and final drives	
Front	87
Rear	87
Hydraulic system (including tank)	250
Hydraulic tank	125

Sound Levels/Dynamics

Operator sound	dB(A)
Standard sound suppression*	75
Exterior sound	
Standard sound suppression**	111

* The operator sound pressure levels are measured according to the dynamic test procedures and conditions specified in ISO6396.

** The exterior sound power levels are measured according to the dynamic test procedures and conditions specified in 2000/14/EC.

Tires

Choose from a variety of tires to match your application.

Choice of

- 29.5-R25 XHA 1 STAR L-3 (rock) standard
- 29.5-R25 XLDD2 1 STAR L-5 (extra deep tread)
- 29.5-R25 XMINE D2 (extra deep tread)
- 26.5-R25 L-3 (rock)
- 29.5-25 22PR L-3 (rock)
- 29.5-25 22PR L-5 (extra deep tread)
- 29.5-R25 GP2B L-2/L-3 (traction-rock)
- 29.5-R25 RL2+ (traction-rock)
- 26.5-R25 L-2/3 (traction-rock)
- 26.5-25 20PR L-3 (rock)
- 26.5-25 20PR L-5 (extra deep tread)

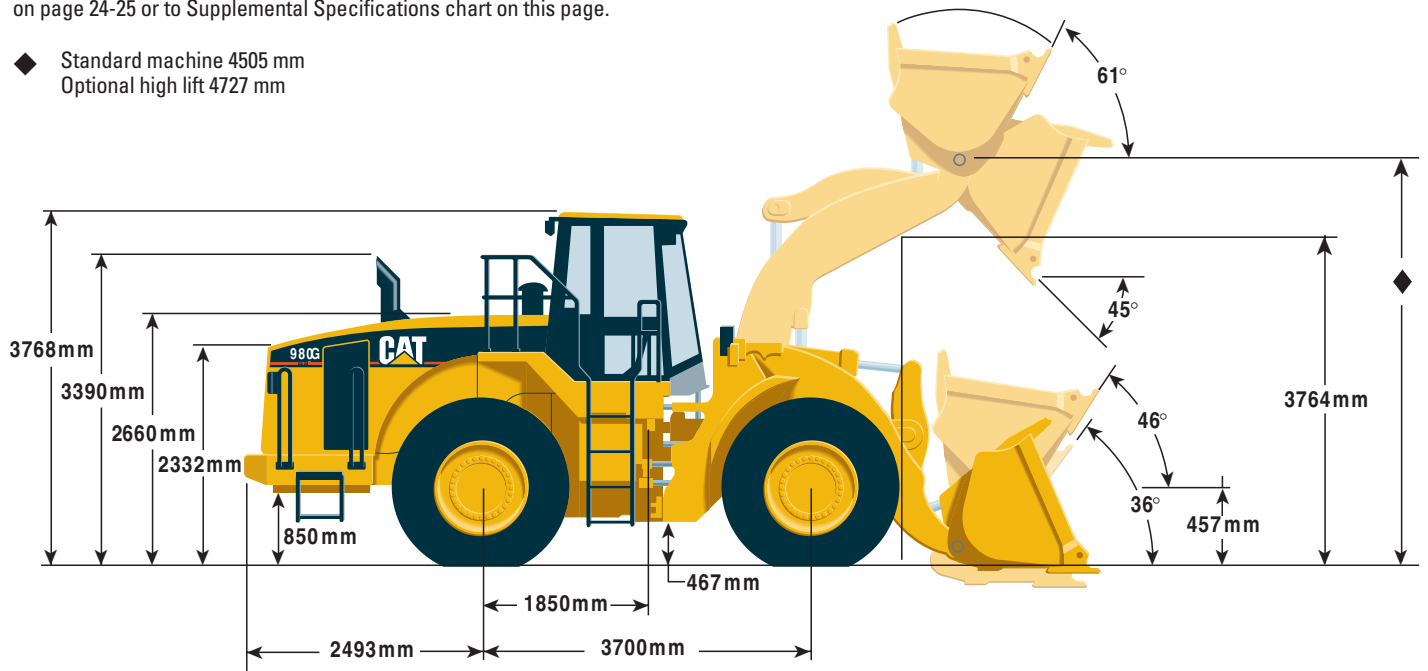
In certain applications (such as load-and-carry work) the loader's productive capabilities might exceed the tires' tonnes-km/h capabilities. Caterpillar recommends that you consult a tire supplier to evaluate all conditions before selecting a tire model.

Dimensions

All dimensions are approximate.

Dimensions vary with bucket or tires. Refer to operation specifications chart on page 24-25 or to Supplemental Specifications chart on this page.

- ◆ Standard machine 4505 mm
Optional high lift 4727 mm



Tread width for 29.5-25 is 2440 mm
Tread width for 26.5-25 is 2368 mm

Supplemental Specifications

	XHA	XLDD2	XMNED2	22PRL3	22PRL5
Tread type	L3	L5	L5	L3	L5
Dimension	29.5 x 25	29.5 x 25	29.5 x 25	29.5 x 25	29.5 x 25
Width over tires (mm)	3192	3247	3202	3225	3245
Change in all vertical dimensions (mm)	Used as reference	+23	+39	+11	+46
Weight variation (kg)	0	+868	+1156	-323	+951
Change in static tipping load (kg)					
full articulation	0	+685	+913	-255	+751
	XHA	GP2B	GP2B	20PRL3	20PRL5
Tread type	L3	L2/3	L2/3	L3	L5
Dimension	26.5 x 25	26.5 x 25	29.5 x 25	26.5 x 25	26.5 x 25
Width over tires (mm)	3041	3049	3215	3059	3071
Change in all vertical dimensions (mm)	-57	-55	+1	-53	+3
Weight variation (kg)	-675	-675	-82	-805	+55
Change in static tipping load (kg)					
full articulation	-57	-55	-65	-53	+3

Operation Specifications

		General Excavation Buckets					
		Bolt-on Cutting Edge	Tips and Segments (no GET)	Bolt-on Cutting Edge	Tips and Segments (no GET)	Bolt-on Cutting Edge	Tips and Segments (no GET)
Rated bucket capacity	m ³	4.6	4.5 (4.2)	5	4.9 (4.7)	5.4	5.4 (5)
Struck capacity	m ³	3.9	3.8 (3.7)	4.2	4.2 (4.0)	4.6	4.5 (4.4)
Width	mm	3447	3533 (3405)	3447	3533 (3405)	3447	3533 (3405)
Dump clearance at full lift and 45° discharge ⁴	mm	3458	3246 (3461)	3333	3188 (3402)	3282	3137 (3350)
Reach at full lift and 45° discharge ⁴	mm	1341	1455 (1258)	1410	1525 (1327)	1472	1587 (1389)
Reach with lift arms horizontal and bucket level ⁴	mm	2782	2964 (2674)	2873	3054 (2765)	2953	3134 (2845)
Digging depth	mm	143	169 (108)	143	169 (108)	143	169 (108)
Overall length ⁴	mm	9163	9445 (9153)	9354	9535 (9244)	9435	9616 (9325)
Overall height with bucket at full raise	mm	5990	5990 (5990)	6063	6064 (6063)	6133	6133 (6133)
Loader turning radius with bucket in carry position	mm	7836	7933 (7781)	7861	7958 (7805)	7883	7981 (7826)
Bucket weight	kg	2603	2677 (2204)	2709	2778 (2305)	2797	2870 (2397)
Static tipping load straight ¹	kg	21195	21037 (21764)	20854	20777 (21432)	20569	20485 (21139)
Full turn Static tipping load at 37° articulation ¹	kg	19109	18949 (19671)	18790	18711 (19362)	18522	18436 (19085)
Breakout force ²	kN	248	249 (270)	230	233 (250)	216	219 (234)
Operating weight ¹	kg	30216	30290 (29817)	30322	30391 (29918)	30409	30483 (30010)

¹ Static tipping load and operating weight shown are based on average machine configuration with sound-suppression cab and ROPS, secondary steering, air conditioning, ride control, 29.5-R25, L-3, tires, full fuel tank, coolant, lubricants, lights, directional signals with CE plates and operator.

² For buckets with adapters, tips and segments, value is measured 100 mm behind the tip of the segment, with bucket hinge pin as pivot point, in accordance with SAE J732C.

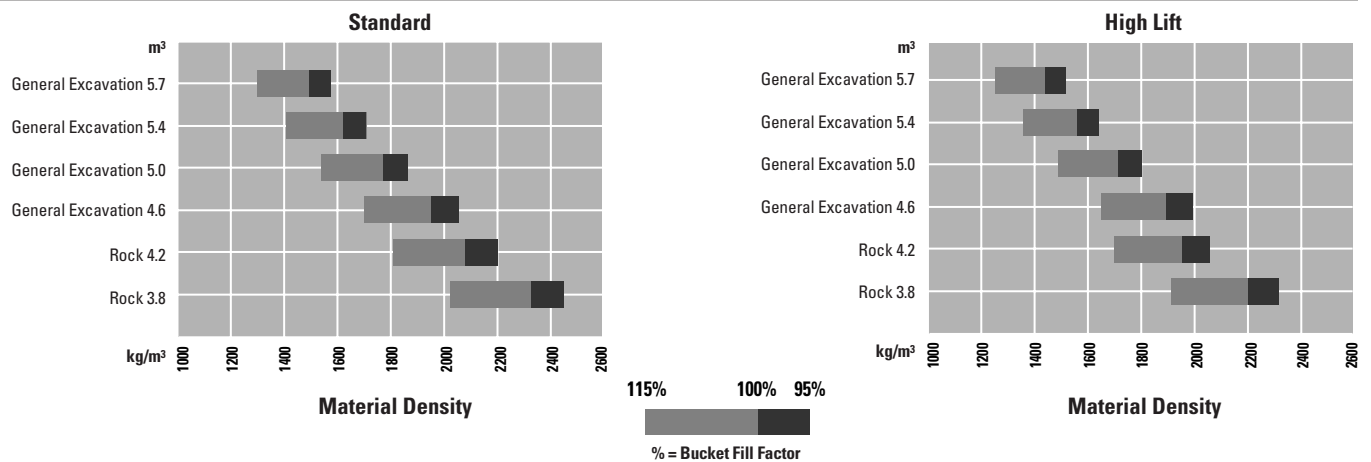
³ All buckets shown can be used on the high lift arrangement. High lift column shows changes in specifications from standard lift to high lift. Add or subtract as indicated to or from specifications given for appropriate bucket to calculate high lift specifications.

Dimensions for dump clearance, reach and overall length:

⁴ Actual dimensions taken at the tip of the Ground Engaging Tools, either the tip of the bolt-on cutting edge or the tip of the teeth, type long.

	Rock Buckets						High Lift ³
	Bolt-on Cutting Edge	Tips and Segments (no GET)	Adapters and Long Tips (no GET)	Adapters, Segments and Long Tips	Adapters and Long Tips (no GET)	Adapters, Segments and Long Tips	
	5.7	5.6 (5.4)	4.2 (4.2)	4.5	4.8 (4.8)	5.1	same
	4.9	4.9 (4.7)	3.5 (3.5)	3.7	4.0	4.3	same
	3447	3533 (3405)	3492 (3492)	3492	3645 (3645)	3645	same
	3249	3104 (3318)	3132 (3376)	3163	2890 (3107)	2890	+221
	1511	1626 (1428)	1753 (1526)	1786	1791 (1572)	1791	+2
	3003	3185 (2896)	3244 (2916)	3252	34629 (3154)	3462	+159
	143	169 (108)	102 (102)	137	154 (154)	189	+99
	9485	9666 (9376)	9724 (9396)	9734	9925 (9642)	9925	+201
	6204	6204 (6204)	6362 (6362)	6362	6245 (6245)	6245	+221
	7896	7995 (7836)	7885 (7860)	7935	7982 (7899)	7982	+72
	3052	3125 (2652)	2873 (2649)	3202	3500 (3200)	3907	same
	20163	20079 (20733)	20742 (21045)	20299	19902 (20112)	19052	-1528
	18127	18042 (18692)	18673 (18976)	18234	17855 (18080)	17045	-1410
	208	210 (225)	220 (222)	203	189 (191)	177	same
	30664	30738 (20265)	30486 (30262)	30815	31113 (30813)	31520	+195

Bucket Selection Guide



Note: In accordance with SAE J818, these data consider the bucket load to be equal to half of the static tipping load at full turn.

Standard Equipment

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

Electrical

70-amp alternator
Batteries (two 12-volt, maintenance free,
CCA: 900 BCI, 475 DIN)
Ignition key start/stop switch
Main disconnect switch
Light directional signals**
Starter, electric, heavy duty (24-volt)
Voltage converter (12-volt, 5 amp)
Diagnostic connector
Working halogen lighting system,
including six lights:
Two forward floodlights on
the front frame
Two forward floodlights on the cab
Two rearward floodlights on
the counterweight

Operator Environment

Air conditioning (R134a refrigerant)**
Adjustable steering column
Caterpillar Contour Series seat, 6-way
adjustable, with air suspension
Electro-hydraulic implement controls,
lift and tilt
Programmable and cushioned lift/tilt
kickouts
Hydraulic lift and tilt lock switch
Cab, pressurized with sound suppression
and rollover protective structure (ROPS)
Cab dome lights*
Heater and defroster*
Horn, electric
Cigar lighter and ashtray
Coat hooks (2)
Cup and thermos holders
Mirrors, rearview, outside mounted
Radio ready cab*
Seat belt, retractable, 76 mm wide
Tinted glass
Sun visor

Electronic monitoring system:
3-category alarm system
Gauges:
Speedometer
Tachometer
Fuel level
Hydraulic oil temperature
Transmission oil temperature
Engine coolant temperature
Warning indicators:
Engine oil pressure
Parking brake
Axle oil pressure
Electrical system
Engine inlet manifold temperature
Brake oil temperature
Hydraulic oil level
Hydraulic filter bypass
Primary steering oil pressure
Secondary steering oil pressure**
Windshield washers/wipers, wet arm,
front and rear, front intermittent*

Engine

Cat 3406E ATAAC diesel engine,
direct injection, turbocharged with
air-to-air aftercooler
Cooling system:
AMOCs modular radiator
On demand radiator cooling fan,
hydraulically driven
Hydraulic oil cooler
Air conditioner condenser**
Fuel system Priming pump, electric
Air precleaner, Radial Seal filters,
primary (Ultra High Efficiency)
and secondary
Sound suppressed muffler

Drive Train

Torque converter
Transmission, planetary, power
shift, 4F/4R:
Automatic shift capability
Fully automatic speed range control
Direction and gear selection switch with
quick gear kickdown button
Transmission diagnostic connectors
(pressure taps)
Transmission auto/manual switch
Transmission neutralizer on/off switch

Brakes, full-hydraulic actuated,
enclosed wet discs
Differential limited slip, rear axle**
Integrated Braking System
Variable Shift Control

Hydraulics

Automatic bucket positioner
Automatic Ride Control System**
Caterpillar O-ring face seals couplings
Caterpillar XT hoses
Hydraulic oil cooler (swing out)
Loader linkage, sealed Z-bar design
Steering, load-sensing hydraulic
Secondary steering**

Preventive Maintenance

Caterpillar High Efficiency fuel filters
Caterpillar Ultra High Efficiency,
Radial Seal primary air filter
Caterpillar Radial Seal secondary
air filter
Extended Life Coolant
antifreeze (-30°C)
Hydraulic pressure taps
(diagnostic connectors)
Product Link ready
Scheduled Oil Sampling (S•O•S) valves
Service indicators:
Engine air filter restricted in-cab
indicator
Coolant level sight gauge
Hydraulic oil level sight gauge
Transmission oil level sight gauge

Other Standard Equipment

Counterweight, single section
Drawbar hitch with pin
Ecology drains for engine, transmission,
hydraulics.
Engine enclosure, tilting, electrically
actuated, non-metallic, one-piece
Platform deflectors for rear wheels
Locking engine enclosures
Steel fenders, front, with mud flaps
Vandalism protection, caplocks**
Powertrain guard**

* Not included in Open Cab configuration
** May be optional in some countries

Optional Equipment

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

Electrical

Auxiliary halogen lighting package including

- Two additional forward floodlights on the cab
- Two rearward floodlights on the cab

Back up alarm
Warning lighting system, rotating beacon

Starting Aid

Ether starting aid
Heater, engine coolant, 220 V

Operator Environment

Rearview mirrors, interior
Sliding window on right-hand side

Drive Train

Axle oil cooler
Free wheel stator torque converter
Differential Limited Slip, front axle
Differential No SPIN, rear axle
Wet disc parking brake

Hydraulic

Hydraulic arrangement, third valve

Preventive Maintenance

Automatic central lubrication system (factory installed)
Extended Life Coolant antifreeze (-35 to -50°C)
Cat Turbine PreCleaner
Product Link
Remote diagnostic pressure taps for hydraulic and transmission systems

Environmental Attachments

Cat Bio Hydo (HEES), biodegradable hydraulic synthetic ester based oil
Ecology drain, axle

Aggregate Autodig

Designed to automatically load aggregate materials. Automates and optimizes the bucket and lift arms loading cycle in order to enhance machine and operator efficiency. Available with Command Control steering versions only.

Other Optional Attachments

Buckets (see page 14)
High Lift arrangement
High Lift arrangement with hydraulic third valve
Fast fill engine oil and fuel
Rear roading fenders, full coverage, swingable, non-metallic
Payload Control System

Steel Mill Arrangement providing extensive protection to deliver the expected durability while working in harsh environments of the steel mill and slag handling industries.

Block Handler Arrangement providing all the necessary features to withstand heavy-duty requirements of marble block handling in quarry applications.

Underground Mining Arrangement providing ability to work in confined underground mines.

Forestry Arrangement keeping your millyard operation efficient and productive at every stage.

980G Series II Wheel Loader

HEHL5462 (06/2003) hr

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

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