

# M322D

Wheel Excavator

**CAT**<sup>®</sup>



Cat<sup>®</sup> C6.6 engine with ACERT<sup>™</sup> Technology

Net power (ISO 9249) at 2000 rpm	123 kW/167 hp
Operating weight	20 500 to 22 500 kg
Bucket capacities	0.44 to 1.57 m <sup>3</sup>
Maximum reach at ground level	10 320 mm
Maximum digging depth	6680 mm
Maximum travel speed	25 km/h

# M322D Wheel Excavator

*The D Series incorporates innovations for improved performance and versatility.*

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## Engine

- ✓ Caterpillar's exclusive ACERT™ Technology surpasses the most stringent emissions requirements in the construction industry. The EU Stage IIIA compliant C6.6 offers increased performance and reliability while reducing fuel consumption and sound levels. **pg. 4**

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## Hydraulics

- ✓ The state of the art load-sensing hydraulic system combined with a separate dedicated swing pump provides fast cycle times, increased lift capacity and high bucket and stick forces. This combination maximizes your productivity in any job. **pg. 5**

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## Operator Comfort

- ✓ The totally redesigned operator station maximizes comfort while increasing safety. The available auto-weight adjusted air-suspension seat with heated and cooled ventilated cushions improves operator comfort. Safety is enhanced by the new color monitor and optional rear-mounted camera. **pg. 6**

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## Environmentally Responsible Design

- ✓ Helping to protect our environment, the engine has low operator and spectator sound levels, longer filter change intervals and is more fuel-efficient. **pg. 4**

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## SmartBoom™

- ✓ More productive. Faster cycle times for truck loading and rock scraping. Maintains optimum hammering frequency for effective, steady productivity. **pg. 5**

*Increased lifting capacity, improved cycle times and ease of operation lead to increased productivity and lower operating costs.*

✓ *New Feature*



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### **Undercarriage**

Various undercarriage configurations are available to provide the best solution for your work environment; these configurations can include a dozer blade and/or outriggers depending on your needs. **pg. 8**

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### **Booms and Sticks**

Caterpillar® excavator booms and sticks are built for performance and long service life. The box section design provides the strength needed for even the toughest applications. Multiple boom and stick options allow you to pick the best match for your job. **pg. 9**

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### **Work Tools**

The combination of Caterpillar machines and work tools provide a total solution for any application. A variety of couplers, buckets, hammers, grapples, shears, multi-processors to name a few are offered to optimize your machine's versatility. **pg. 11**

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### **Versatility**

Caterpillar offers a wide variety of factory-installed attachments that enhance performance and job site management. **pg. 10**

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### **Serviceability**

For increased safety, all daily maintenance points are accessible from ground level. A centralized greasing system allows lubrication of critical points. **pg. 12**

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### **Complete Customer Service**

Your Cat® dealer offers a wide range of services that can be set up under a customer support agreement when you purchase your equipment. Your dealer will help you choose a plan that can cover everything from machine and attachment selection to replacement. **pg. 13**



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## Engine

*Built for power, reliability, low maintenance, excellent fuel economy and low emissions.*

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**Powerful Performance.** The Cat C6.6 engine with ACERT Technology introduces a series of evolutionary, incremental improvements that provide breakthrough engine performance. The building blocks of ACERT Technology are fuel delivery, air management and electronic control. ACERT Technology optimizes engine performance while meeting EU Stage IIIA engine emission regulations. The Cat C6.6 engine in the M322D delivers a maximum gross power of 129 kW at a rated speed of 2000 rpm.

**Low Fuel Consumption.** The C6.6 is electronically controlled and uses the new Cat Common Rail Fuel System and fuel pump. This combination provides outstanding fuel consumption during both production and travel. When the system recognizes roading application the engine will operate at the most efficient system operating point to save fuel without compromising road performance.

**Low Noise, Low Vibration.** The Cat C6.6 design improves operator comfort by reducing sound and vibration.

**Cooling System.** An electronically controlled, hydraulic motor drives a variable speed on-demand fan for engine coolant and hydraulic oil. The optimum fan speed is determined based on coolant and hydraulic oil temperature resulting in reduced fuel consumption and lower sound levels. The electronic engine control continuously compensates for the varying fan load, providing consistent net power, regardless of operating conditions.

### **One-Touch Low Idle Control.**

The two stage, one-touch Automatic Engine Speed Control reduces engine speed if no operation is performed, maximizing fuel efficiency and reducing sound levels.

### **Waste Handling Package.**

The Waste Handling Package has been specifically developed for Cat Wheel Excavators working in waste transfer stations or other extremely dusty applications. This option features the following:

- An automatic, hydraulic reversible fan that reverses airflow after a set interval, manually adjustable between 5 and 60 minutes with a switch located inside the cab.
- A special dense wire mesh cooling system hood further reduces radiator clogging.
- Two cyclone filters provide clean filtered air to the engine compartment, air cleaner, aftercooler and air conditioner condenser.

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## Environmentally Responsible Design

*The M322D helps build a better world and preserve the fragile environment.*

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**Fuel Efficiency.** The D-Series Wheel Excavators are designed for outstanding performance with high fuel efficiency. This means more work done in a day, less fuel consumed and minimal impact on our environment.

**Low Exhaust Emissions.** The EU Stage IIIA compliant Cat C6.6 offers increased performance and reliability while reducing fuel consumption and sound levels.

**Quiet Operation.** Operator and spectator noise levels are extremely low as a result of the new variable speed fan and remote cooling system.

### **Biodegradable Hydraulic Oil.**

The optional biodegradable hydraulic oil (HEES™) is formulated to provide excellent high-pressure and high temperature characteristics, and is fully compatible with all hydraulic components. HEES is fully decomposed by soil or water microorganisms, providing a more environmentally sound alternative to mineral-based oils.

**Fewer Leaks and Spills.** Lubricant fillers and drains are designed to minimize spills. Cat O-Ring Face Seals, Cat XT™ Hose and hydraulic cylinders are all designed to help prevent fluid leaks that can reduce the machine performance and cause harm to the environment.

**Longer Service Intervals.** Working closely with your Caterpillar Dealer can help extend service intervals for engine oil, hydraulic oil, axle oil and coolant. Meaning fewer required fluids and fewer disposals, all adding up to lower operating costs.

## Hydraulics

*Load-sensing hydraulic system provides fast cycle times, increased lift capacity and high bucket and stick forces to maximize your productivity in any job.*

**Dedicated Swing Pump.** A dedicated variable displacement piston pump and fixed displacement piston motor power the swing mechanism. This closed hydraulic circuit maximizes swing performance without reducing power to the other hydraulic functions, resulting in smoother combined movements.

**Heavy Lift Mode.** This mode maximizes lifting performance by boosting the lifting capability of the excavator by 7%. Heavy loads can be easily moved in the full working range of the machine, maintaining excellent stability.

**Adjustable Hydraulic Sensitivity.** This function allows the operator to adjust the aggressiveness of the machine according to the application. For precision work, one of four different levels of aggressiveness can be preselected.

**Proportional Auxiliary Hydraulics.** Versatility of the hydraulic system can be expanded to utilize a wide variety of hydraulic work tools using multiple valve options.

- The Multi-Combined Valve is the core of the Tool Control System, allowing the operator to select up to ten pre-programmed work tools from the monitor. These preset hydraulic parameters support either one-way or two-way flow. The joystick sliding switches allow modulated control of the work tool.



- A dedicated Hammer circuit is the best option for tools that require one-way flow only, and do not require the flexibility provided by the Multi-Combined Valve.
- The Medium Pressure Function Valve provides proportional flow that is ideal for tilting buckets or rotating tools.
- A new feature for the D-Series Wheel Excavators is the optional second High Pressure valve. In combination with the Multi-Combined Valve, it provides the possibility to operate the machine with work tools or in applications requiring a third auxiliary hydraulic function, such as a tilting/rotating quick coupler.

**Stick Regeneration Circuit.** The stick regeneration circuit increases efficiency and helps increase controllability for higher productivity and lower operating costs.

**Quick Coupler.** The machine can be optionally equipped with a dedicated hydraulic circuit to operate hydraulic quick couplers.

**Hydraulic Snubbers.** Caterpillar integrates its cylinder snubber technology into all Wheel Excavator boom, stick and bucket cylinders. These snubbers help cushion shocks, reduce sound and increase cylinder life.

**Caterpillar XT-6 ES Hoses.** Premium quality rubber, precision 4-ply wire reinforcement and exclusive reusable couplings are all unique features that deliver top performance and long life.

**SmartBoom.** Reduces stress and vibrations transmitted to the machine and provides a more comfortable environment.



**Rock Scraping.** Scraping rock and finishing work is easy and fast. SmartBoom simplifies the task and allows the operator to concentrate on stick and bucket, while boom freely goes up and down without using pump flow.



**Hammer Work.** The front parts automatically follow the hammer while penetrating the rock. Blank shots or excessive force on the hammer are avoided resulting in longer life for the hammer and the machine. Similar advantages with vibratory plate compactors.



**Truck Loading.** Loading trucks from a bench is more productive and fuel efficient as the return cycle is reduced while the boom down function does not require pump flow.

## Operator Comfort

*The interior layout maximizes operator space, provides exceptional comfort and reduces operator fatigue.*



**Interior Operator Station.** Improved visibility and ergonomics are some of the many new features of the D-Series Wheel Excavators. The pressurized operator station provides maximum space and is designed for simplicity and functionality. Frequently used switches are centralized and are situated on the right-hand switch console. The left-hand seat console controls dozer blade and/or outriggers, and is tiltable for easy access to the cab. The fully automatic climate control adjusts temperature and air flow for exceptional operator comfort. Other comfort features include a cigar lighter, ashtray, cup/can holder, magazine rack and integrated mobile phone holder.

**Cab Construction.** The exterior design uses thick steel tubing along the bottom perimeter of the cab, improving the resistance to fatigue and vibration. This design allows the falling object guards to be bolted directly to the cab. The cab shell is attached to the frame with rubber mounts that limit vibration and sound transmitted from the frame, substantially reducing interior noise levels.



**Viewing Area.** To maximize visibility, all glass is affixed directly to the cab, eliminating the use of window frames. Choice of fixed or easy-to-open split front windshield meet operator preference and application conditions.

- The 50/50 split front windshield allows both upper and lower portions to be stored in an overhead position and features the one-touch action release system.
- The 70/30 split front windshield stores the upper portion above the operator. The lower front windshield features a rounded design to maximize downward visibility and improves wiper coverage. Also features the one-touch action release system.
- The fixed front windshield comes with high impact resistant laminated glass.
- A unique large skylight without cross bar provides superb upward visibility. The retractable sunscreen blocks direct sunlight.



**Monitor.** The new compact color monitor displays information in local language that is easy to read and understanding.

Functions include:

- 5 programmable “Quick Access” buttons for one-touch selection of favorite functions.
- Filter and oil change warnings are displayed when the number of hours reaches the maintenance interval.
- Tool select function allows the operator to select up to 10 pre-defined hydraulic work tools.
- Adjustable braking characteristics enable the operator to select three levels of travel motor retarder aggressiveness when releasing the travel pedal.
- Provides a rear camera view that is activated through the monitor menu. The optional camera is mounted on the counterweight.



**New Deluxe Seat.** The new optional deluxe seat, equipped with an active seat climate system, improves operator comfort. Cooled air flows through the seat cushions to reduce body perspiration. On cold days, a two-step seat heater keeps the operator warm and comfortable. The fully adjustable seat with adjustable lumbar support automatically adjusts to the driver's weight providing a more relaxed and comfortable environment.

**Heated Mirrors.** Another new feature is electrically heated mirrors, increasing safety and visibility in cold conditions.

**Wipers.** The parallel wiper system maximizes visibility in poor weather conditions. The wiper virtually covers the entire front windshield, cleaning the operator's immediate line of sight.



**Lunch Box.** A large, cooled storage compartment is located behind the operator's seat. The compartment provides sufficient room to store items such as a lunch box. An optional cover secures the contents during machine operation.

**Foot Pedals.** Two-way pedals for travel and auxiliary circuits provide increased floor space, reducing the need to change positions. The foot pedal for auxiliary high-pressure circuit can be locked in the off position and used as a footrest for greater operator comfort.

## Undercarriage

*Undercarriage and axle design provides maximum strength, flexibility and mobility on wheels.*



**Heavy-Duty Axles and Stabilizers.** The D-Series Wheel Excavator undercarriage with pin on/bolt on design provides excellent flexibility, rigidity and long life. Effective hydraulic line routing, transmission protection and heavy-duty axles make the undercarriage perfect for wheel excavator applications. The front axle offers wide oscillating and steering angles. The transmission is mounted directly on the rear axle for protection and optimum ground clearance.

**Advanced Disc Brake System.** The disc brake system acts directly on the hub instead of the drive shaft to avoid planetary gear backlash. This solution eliminates the rocking effect associated with working free on wheels. The axle design lowers maintenance and lifetime costs. Oil change intervals are at 2000 working hours, further reducing owning and operating costs.

**Fenders.** The optional fenders provide excellent coverage of the front and rear tires, protecting the machine from mud and dirt. Water cannot splash up on the windscreen or cooler. The fenders further protect the machine from stones and debris being thrown up by the tires, providing additional safety for the machine, other vehicles and personnel working close to the excavator.

**Adjustable Travel Alarm.** An adjustable travel alarm is available to warn people when the machine is moving. Three settings can be selected through the monitor:

- Auto mode – alarm will stop sounding immediately when the machine is no longer traveling, or has been sounding for an uninterrupted 10-second interval.
- Standard mode – alarm operates constantly during moving, with only manual cancellation.
- Off mode – travel alarm is disabled.



## Booms and Sticks

*Designed for maximum flexibility to keep production high on all jobs.*



**Design.** Booms and sticks are welded, box section structures with thick, multiplate fabrications in high stress areas, for rugged performance and long service life.

**Flexibility.** The choice of two booms and three sticks provides the right balance of reach and digging forces for all applications.

### **Variable Adjustable (VA) Boom.**

The VA boom offers improved right side visibility and machine roading balance. When working in tight quarters or lifting heavy loads, the VA boom offers the best flexibility.

**One-Piece Boom.** The one-piece boom fits best for all standard applications such as truck loading and digging. A unique straight section in the curve of the side plate reduces stress flow and helps increase boom life.

**Sticks.** Three different stick lengths are offered to match different application requirements:

- Short stick (2200 mm) for maximum breakout force and lifting capability.
- Medium stick (2500 mm) for greater crowd force and lift capacity.
- Long stick (2900 mm) for greater depth and reach requirements.



## Versatility

*A wide variety of optional factory-installed attachments are available to enhance performance and improve job site management.*



**Tool Control.** The integrated Tool Control system allows the operator to select up to 10 pre-set combinations. This eliminates the need to re-set the hydraulic parameters each time a tool is changed. Individual flow and pressure can be programmed easily as well as one-way/two-way hydraulic functions. Each of the ten-programmed tools can even be given a specific name. The unique Cat proportional sliding switches and optional auxiliary pedal provide modulation to the tool to make precision work easy.

**Joystick Steering.** The unique joystick steering option enables an operator to reposition the machine while traveling in first gear by the use of the slider switch on the right joystick. This enables the operator to keep both hands on the joysticks while simultaneously moving the implements and traveling. The operator can do more precise work faster with increased safety around the machine.

**Control Settings.** There are 2 selectable control settings and one automatic travel setting. The new automatic travel mode is activated with a button in the right hand console. In this setting, the transmission will automatically shift up or down, depending on the speed conditions. The operator can choose the best power setting for both engine and hydraulic power versus fuel efficiency.

- Economy Mode – used for lifting, pipe setting, grading, slope finishing and precise work while reducing fuel consumption.
- Power Mode – used for normal truck loading and digging applications, trenching or hammer use.
- Travel Mode – automatically set when the travel pedal is actuated. It provides maximum speed and drawbar pull.

**Product Link.** Product Link can assist with Fleet Management to keep track of hours, location, security and product health. The machine is pre-wired to accept Product Link systems to be installed in the field. Product Link is also available as a factory installed attachment.

**Machine Security.** An optional Machine Security System is available from the factory. This system controls who can operate the machine when, and utilizes specific keys to prevent unauthorized machine use.

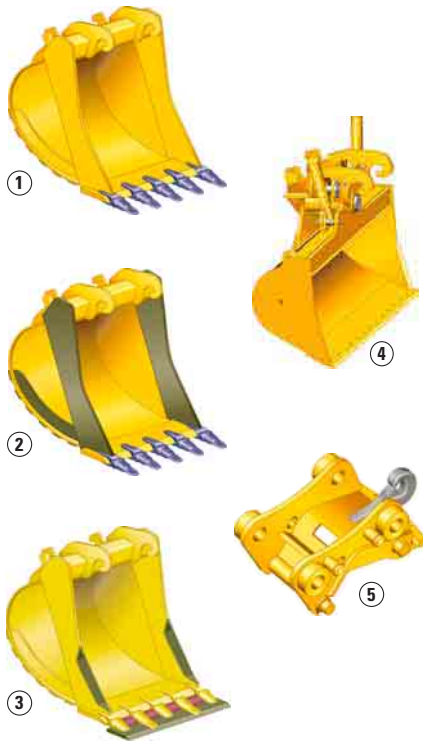
**Ride Control.** New for the D Series, the ride control system improves operator comfort and allows the machine to travel faster over rough terrain with improved ride quality for the operator. The ride control system features accumulators

acting as shock absorbers to dampen the front part motion. Ride control can be activated through a button located on the soft switch panel in the cab.



## Work Tools

*A wide variety of Work Tools help optimize machine performance. Purpose designed and built to Caterpillar's high durability standards.*



**Work Tools.** Caterpillar work tools are designed to function as an integral part of your excavator and to provide the best possible performance in your particular application. All work tools are performance-matched to Cat machines.

**Quick Couplers.** Quick Couplers enable the operator to simply release one work tool and connect to another, making your hydraulic excavator highly versatile. Productivity also increases, as a carrier no longer needs to be idle between jobs. Caterpillar offers hydraulic and spindle quick coupler versions.

**Buckets.** Caterpillar offers a wide range of specialized buckets, each designed and tested to function as an integral part of your excavator. Buckets feature the new Caterpillar K Series™ Ground Engaging Tools.

- 1 Excavation (X)
- 2 Extreme Excavation (EX)
- 3 Excavation Leveling
- 4 Ditch Cleaning
- 5 Quick Coupler

**Hammers.** Cat hammer series deliver very high blow rates, increasing the productivity of your tool carriers in demolition and construction applications. Wide oil flow acceptance ranges make the Caterpillar hammers suitable for a wide range of carriers and provide a system solution from one safe source.

**Orange Peel Grapples.** The Orange Peel Grapple is constructed of high-strength, wear-resistant steel, with a low and compact design that makes it ideal for dump clearance. There are several choices of tine and shell versions.

**Multi-Grapples.** The Multi-Grapple with unlimited left and right rotation is the ideal tool for stripping, sorting, handling and loading. The powerful closing force of the grab shells combined with fast opening/closing time ensures rapid cycle time which translates to more tons per hour.

**Multi-Processors.** Thanks to its single basic housing design, the Multi-Processor series of hydraulic demolition equipment makes it possible to use a range of jaw sets that can handle any demolition job. The Multi-Processor is the most versatile demolition tool on the market.

**Vibratory Plate Compactors.** Cat compactors are performance-matched to Cat machines, and integrate perfectly with the Cat hammer line – brackets and hydraulic kits are fully interchangeable between hammers and compactors.

**Shears.** Cat shears provide superior and effective scrap processing, and are highly productive in demolition environments. Shears are compatible with a matching Cat excavator, and bolt-on brackets are available for either stick or boom-mounted options.

## Serviceability and Complete Customer Support

*Simplified and easy maintenance save you time and money.*

*Cat dealer services help you operating longer with lower costs.*



**Ground Level Maintenance.** Caterpillar designed its D-Series Wheel Excavators with the operator and service technician in mind. Gull-wing doors, with pneumatically-assisted lift cylinders, effortlessly lift up to allow critical maintenance to be performed quickly and efficiently while maintaining operator safety.

**Extended Service Intervals.** The D Series Wheel Excavator service and maintenance intervals have been extended to reduce machine service time, increase machine availability and reduce operating costs. Using S•O•S Scheduled Oil Sampling analysis, hydraulic oil change intervals can be extended up to 4000 hours. Engine coolant change intervals are 12 000 hours with Cat Extended Life Coolant.

**Engine Oil.** Caterpillar engine oil is formulated to optimize engine life and performance. The specially formulated oil is more cost effective and increases engine oil change interval to 500 hours, providing industry leading performance and savings.

**Self-Monitoring System with Auto-Diagnostics.** The electronic engine and machine controllers provide detailed diagnostic capability for the service technicians. The ability to store active and intermittent indicators simplifies problem diagnosis and reduces total repair time, resulting in improved machine availability and lower operating cost.

**Air Filters.** Caterpillar air filters eliminate the use of service tools, reducing maintenance time. The air filter features a double-element construction with wall flow filtration in the main element and built-in mini-cyclone precleaners for superior cleaning efficiency. The air filters are constantly monitored for optimum performance. If airflow becomes restricted, a warning is displayed by the way of the in-cab monitor.

**Capsule Filter.** The hydraulic return filter, a capsule filter, prevents contaminants from entering the system when the hydraulic oil is changed.

**Fuel Filters.** Cat high efficiency fuel filters with a Stay-Clean Valve™ features a special media that removes more than 98% of particles, increasing fuel injector life. Both the primary and secondary fuel filters are located in the engine compartment and can be easily changed from ground level.

**Water Separator.** The D Series is equipped with a primary fuel filter with water separator located in the engine compartment. For ease of service, the water separator can be easily accessed from ground level.

**Fuel Tank Drain.** The durable, corrosion-free tank has a remote drain located at the bottom of the upper frame to remove water and sediment. The tank drain with hose connection allows simple, spill-free fluid draining.

**Front Compartment.** The front compartment hood can be opened vertically, providing outstanding ground level access to the batteries, air-to-air after cooler, air conditioner condenser and the air cleaner filter.

**Swing-out Air Conditioner Condenser.** The Air Conditioning condenser swings out horizontally to allow complete cleaning on both sides as well as excellent access to the air-to-air aftercooler.

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

**Engine Inspection.** The engine can be accessed from both ground level and the upper structure. The longitudinal layout ensures that all daily inspection items can be accessed from ground level.

**Anti-Skid Plates.** They cover the top of the steps and upper structure to help prevent slipping during maintenance. The Anti-Skid plates reduce the accumulation of mud on the upper structure, improving the cleanliness and safety.



**Easy to Clean Coolers.** Flat fins on all coolers reduce clogging, making it easier to remove debris. The main cooling fan and air conditioner condenser are both hinged for easier cleaning.

**Remote Greasing Blocks.** For those hard to reach locations, greasing blocks have been provided to reduce maintenance time. One block is located in the engine compartment with two grease points for the swing bearing and front-end attachment. For the undercarriage, two remote blocks provide easy access for greasing the oscillating axle and, as an option, the dozer blade.

**New LED Rear Lights.** Optional Light Emitting Diode (LED) rear lights replace the standard lights, for increased visibility on the job site, higher durability and longer life.



**New Auto-Lube System.** The new automatic lubrication system provides the optimal amount of grease to all the main lubrication points, including the bucket linkage. The lubrication interval can be adjusted through the monitor, and status messages for the auto-lube system are displayed.

**Handrails and Steps.** Large handrails and steps assist the operator in climbing on and off the machine.

**Storage Box.** There are two tool boxes integrated in the steps of the undercarriage. Additionally, there is a waterproof storage box integrated into the upper structure steps.

**Product Support.** You will find nearly all parts requirements at your local Caterpillar dealer parts counter. Cat dealers utilize a world-wide network to find in-stock parts to minimize your downtime. To save money use genuine Cat Reman parts. You will receive the same warranty and reliability as new products at a substantial cost savings.

**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 videotapes, literature and other ideas to help you increase productivity, and Caterpillar offers certified operator training classes to help maximize the return on your machine investment.

**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•S Fluid Analysis and Technical Analysis help you avoid unscheduled repairs.

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

## Engine

Cat C6.6 with ACERT Technology	
Ratings	2000 rpm
Gross power	129 kW/175 hp
Net power	
ISO 9249	123 kW/167 hp
80/1269/EEC	123 kW/167 hp
Bore	105 mm
Stroke	127 mm
Displacement	6.6 liters
Cylinders	6
Maximum torque at 1400 rpm	750 Nm

- All engine horsepower (hp) are metric including front page.
- EU Stage IIIA compliant.
- Full engine net power up to 3000 m altitude.

## Transmission

	km/h
Forward/reverse	
1st gear	7
2nd gear	25
Creeper speed	
1st gear	3
2nd gear	12
Drawbar pull	112 kN
Maximum Gradeability	60%

## Service Refill Capacities

	Liter
Fuel tank	385
Cooling	33
Engine crankcase	15
Rear axle housing (differential)	14
Front steering axle (differential)	11
Final drive	2.5
Powershift transmission	2.5

## Hydraulic System

Tank capacity	220 liters
System	335 liters
Maximum pressure	
Implement circuit	
normal	350 bar
heavy lift	375 bar
Travel circuit	350 bar
Auxiliary circuit	
high pressure	350 bar
medium pressure	185 bar
Swing mechanism	340 bar
Maximum flow	
Implement/travel circuit	350 l/min
Auxiliary circuit	
high pressure	250 l/min
medium pressure	50 l/min
Swing mechanism	112 l/min

## Swing Mechanism

Swing speed	9 rpm
Swing torque	56 kNm

## Tires

- Standard
- 11.00-20 (dual pneumatic)
- Optional
- 10.00-20 (dual solid rubber)

## Weights

VA boom*	kg
rear dozer only	19 950
rear dozer, front outriggers	21 200
front and rear outriggers	21 500
One-piece boom*	
rear dozer only	19 450
rear dozer, front outriggers	20 700
front and rear outriggers	21 000

\* Machine weight with medium stick, 4400 kg counterweight, full fuel tank and operator, without work tool.

## Cab

FOGS meets ISO 10262.

## Sound Levels

### Operator Sound

The operator sound level measured according to the procedures specified in ISO 6394:1998 is 72 dB(A), for cab offered by Caterpillar, when properly installed and maintained and tested with the doors and windows closed.

### Exterior Sound

The labeled spectator sound power level measured according to the test procedures and conditions specified in 2000/14/EC is 103 dB(A).

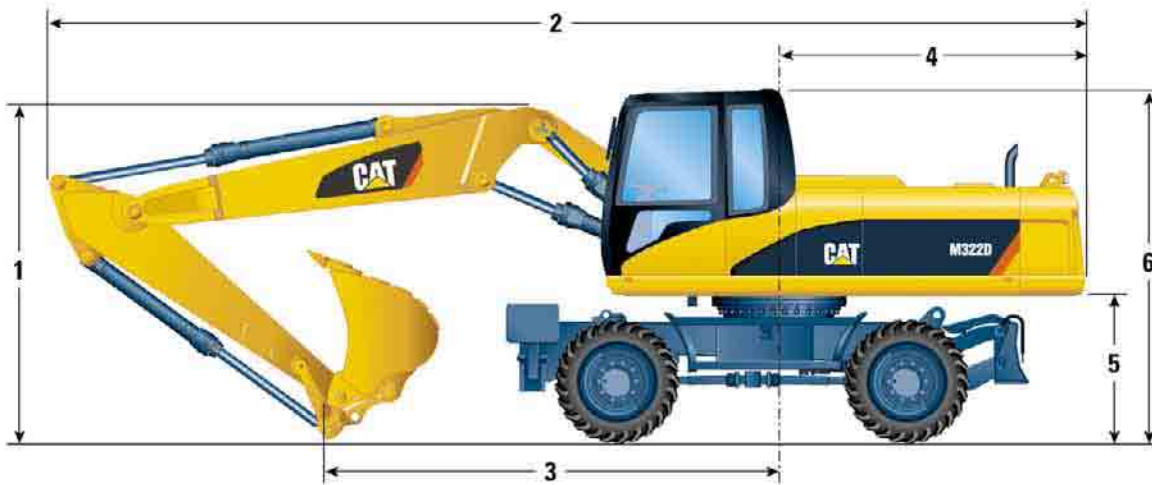
## Undercarriage

	mm
Ground clearance	380
Maximum steering angle	35°
Oscillation axle angle	± 9°
Minimum turning radius	
Standard axle	
outside of tire	6800
end of VA boom	7800
end of one-piece boom	9300

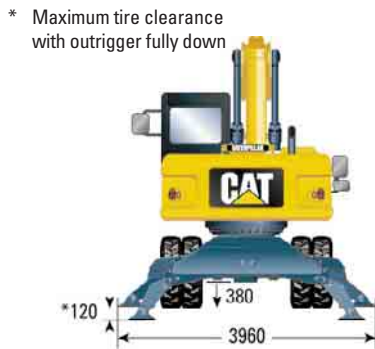
Sticks	kg
short (2200 mm)	650
medium (2500 mm)	700
long (2900 mm)	780
Dozer blade	920
Outriggers	1260
Counterweight	
standard	3900
optional	4400/5400

# Dimensions

All dimensions are approximate.



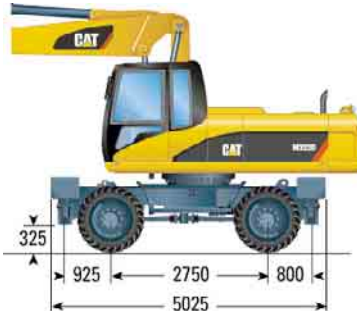
		VA Boom			One-piece Boom		
		2200	2500	2900	2200	2500	2900
Stick length	mm	2200	2500	2900	2200	2500	2900
<b>1</b> Shipping height	mm	3260	3230	3250	3300	3250	3290
<b>2</b> Shipping length	mm	9430	9440	9430	9650	9640	9650
<b>3</b> Support point	mm	4160	3660	3420	4240	3720	3440
<b>4</b> Tail swing radius	mm		2750			2750	
<b>5</b> Counterweight clearance	mm		1310			1310	
<b>6</b> Cab height	mm		3200			3200	
with 1200 mm fixed cab riser	mm		4400			4400	



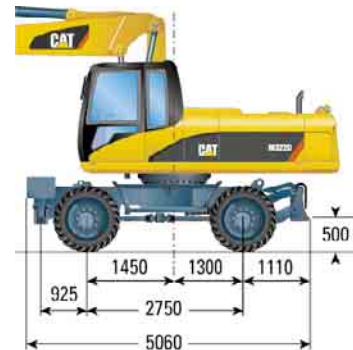
**Undercarriage with dozer only**



**Undercarriage with 2 sets of outriggers**



**Undercarriage with 1 set of outriggers and dozer**



# Bucket Specifications

Contact your Caterpillar dealer for special bucket requirements.

Pin-on Buckets					Variable Adjustable Boom 5440 mm								One-piece Boom 5650 mm											
					2200 mm				2500 mm				2900 mm				2200 mm				2500 mm			
Stick length	Width	Weight*	Capacity (ISO)	Adapters	Free on wheels	Dozer lowered	1 set of stabilizer lowered	Fully stabilized	Free on wheels	Dozer lowered	1 set of stabilizer lowered	Fully stabilized	Free on wheels	Dozer lowered	1 set of stabilizer lowered	Fully stabilized	Free on wheels	Dozer lowered	1 set of stabilizer lowered	Fully stabilized	Free on wheels	Dozer lowered	1 set of stabilizer lowered	Fully stabilized
					mm	kg	m <sup>3</sup>																	
Excavation	600	564	0.44	3																				
	750	593	0.59	3																				
	1000	698	0.86	4																				
	1200	783	1.08	5																				
	1250	800	1.13	5																				
	1300	818	1.19	5																				
	1400	853	1.30	5																				
	1500	888	1.41	5																				
Extreme Excavation	600	589	0.44	3																				
	750	620	0.59	3																				
	1250	827	1.13	4																				
	1300	864	1.18	5																				
Excavation (leveling)	750	625	0.64	3																				
	1000	741	0.94	4																				
	1200	837	1.19	5																				
	1400	919	1.45	5																				
Extreme Excavation (leveling)	1200	865	1.19	4																				
	1800	690	1.05																					
Ditch Cleaning	2000	750	1.18																					
	1800	1010	0.88																					
Tilttable Ditch Cleaning	2000	1060	0.98																					

## CW Quick Coupler Buckets

Excavation	600	544	0.44	3																				
	750	585	0.59	3																				
	1000	662	0.86	4																				
	1200	242	1.08	5																				
	1250	764	1.13	5																				
	1300	782	1.19	5																				
	1400	817	1.30	5																				
	1500	852	1.41	5																				
Extreme Excavation	600	572	0.44	3																				
	750	615	0.59	3																				
	1250	791	1.13	4																				
	1300	828	1.18	4																				
Excavation (leveling)	1400	865	1.30	5																				
	750	625	0.64	3																				
	1000	705	0.94	4																				
	1200	802	1.19	5																				
Extreme Excavation (leveling)	1400	882	1.45	5																				
	1500	923	1.57	5																				
	1200	828	1.19	4																				
Ditch Cleaning	1800	650	1.05																					
	2000	710	1.18																					
Tilttable Ditch Cleaning	1800	970	0.88																					
	2000	1020	0.98																					


















\* Bucket weight includes Ground Engaging Tools

Maximum material density 1800 kg/m<sup>3</sup>
 Maximum material density 1500 kg/m<sup>3</sup>
 Maximum material density 1200 kg/m<sup>3</sup>
 Not recommended




















# Lift Capacities – Variable Adjustable Boom (5440 mm)

















All values are in kg, without bucket, with counterweight (4400 kg) and CW quick coupler (221 kg), heavy lift on.

Short Stick 2200 mm	 Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
																	
6.0 m	Rear dozer up							5600		3800							
	Rear dozer down								*6700	4300							
	Rear stab down								*6700	5200							
	2 sets stab down								*6700	*6700							
	Dozer and stab down								*6700	6300							
4.5 m	Rear dozer up				8600			*5500		3800	3700		2400	*2700		2000	8.27
	Rear dozer down					*8800		6600	*7100	4300		*6300	2800		*2700	2300	
	Rear stab down					*8800		8000	*7100	5100	5500	3400		*2700	*2700	*2700	
	2 sets stab down				*8800		*8800	*7100	*7100	*7100	*6300	4900	*2700		*2700	*2700	
	Dozer and stab down				*8800		*8800	*7100	*7100	6200	*6300	4200	*2700		*2700	*2700	
3.0 m	Rear dozer up				8300			5500		3700	3700		2400	*2600		1800	8.66
	Rear dozer down					*10 500		6300	*7800	4200		2800		*2600		2100	
	Rear stab down					*10 500		7700	*7800	5100	6300	3400		*2600		*2600	
	2 sets stab down				*10 500		*10 500	*7800	*7800	7000	*6500	4900	*2600		*2600	*2600	
	Dozer and stab down				*10 500		9400	*7800	*7800	6100	*6500	4200	*2600		*2600	*2600	
1.5 m	Rear dozer up	*13 100			8200			5400		3700	3600		2300	*2600		1700	8.75
	Rear dozer down		*13 100			*11 700		6200		4200		2700		*2600		2000	
	Rear stab down		*13 100	*13 100		*11 700		7600		5000	6200	3300		*2600		2500	
	2 sets stab down	*13 100		*13 100	*11 700		10 800	*8400	*8400	7000	*6600	4800	*2600		*2600	*2600	
	Dozer and stab down	*13 100		*13 100	*11 700		9300	*8400	*8400	6100	*6600	4100	*2600		*2600	*2600	
0 m	Rear dozer up	16 100			9500	8300		5300	5300	3500	3500		2200	*2700		1800	8.53
	Rear dozer down		*16 700		11 300		*11 800	6100		4000		2600		*2700		2100	
	Rear stab down		*16 700		14 600		*11 800	7500		4900	6100	3200		*2700		2600	
	2 sets stab down	*16 700		*16 700	*11 800		10 800	*8500	*8500	7100	*6700	4700	*2700		*2700	*2700	
	Dozer and stab down	*16 700		*16 700	*11 800		9300	*8500	*8500	6100	*6700	4000	*2700		*2700	*2700	
-1.5 m	Rear dozer up	16 200			9400	8100		5100	5100	3300	3400		2100	*3000		2000	8.00
	Rear dozer down		*19 400		11 200		*12 000	5900		3800		2500		*3000		2300	
	Rear stab down		*19 400		14 500		*12 000	7300		4600	5200	3100		*3000		2900	
	2 sets stab down	*19 400		*19 400	*12 000		11 100	*8700	*8700	6800	*5400	4600	*3000		*3000	*3000	
	Dozer and stab down	*19 400		*19 400	*12 000		9300	*8700	*8700	5800	*5400	3900	*3000		*3000	*3000	
-3.0 m	Rear dozer up	16 300			9400	8000		5000	4900	3100							
	Rear dozer down		*20 000		11 200		*12 300	5800		3600							
	Rear stab down		*20 000		14 500		*12 300	7200		4500							
	2 sets stab down	*20 000		*20 000	*12 300		11 000	*7200	*7200	6600							
	Dozer and stab down	*20 000		*20 000	19 400	*12 300		9100	*7200	5600							

## Medium Stick 2500 mm

Medium Stick 2500 mm	 Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
																	
6.0 m	Rear dozer up							5600		3800							
	Rear dozer down								*6400	4300							
	Rear stab down								*6400	5200							
	2 sets stab down								*6400	*6400							
	Dozer and stab down								6400	6300							
4.5 m	Rear dozer up				*8300			5800	*5600	3800	3800		2500	*2300		1900	8.52
	Rear dozer down					*8300		6600		4300		*6000	2800		*2300	2200	
	Rear stab down				*8300		*8300	8000		5100	5600	3400		*2300	*2300	*2300	
	2 sets stab down				*8300		*8300	*6900	*6900	*6900	*6000	5000	*2300		*2300	*2300	
	Dozer and stab down				*8300		*8300	*6900	*6900	6200	*6000	4300	*2300		*2300	*2300	
3.0 m	Rear dozer up	*12 300			10 200	8400		5500	5400	3700	3800		2500	*2300		1700	8.90
	Rear dozer down		*12 300		12 000		*10 100	6400		4200		2800		*2300		2000	
	Rear stab down		*12 300		*12 300		*10 100	7700		5000	6200	3400		*2300		*2300	
	2 sets stab down	*12 300		*12 300	*10 100		*10 100	*7600	*7600	7000	*6300	4900	*2300		*2300	*2300	
	Dozer and stab down	*12 300		*12 300	*10 100		9400	*7600	*7600	6100	*6300	4300	*2300		*2300	*2300	
1.5 m	Rear dozer up	*14 000			9900	8200		5400	5400	3600	3700		2400	*2400		1600	8.98
	Rear dozer down		*14 000		11 700		*11 500	6200		4100		2700		*2400		1900	
	Rear stab down		*14 000		*14 000		*11 500	7600		5000	6200	3300		*2400	*2400	*2400	
	2 sets stab down	*14 000		*14 000	*11 500		10 800	*8300	*8300	6900	*6500	4900	*2400		*2400	*2400	
	Dozer and stab down	*14 000		*14 000	*11 500		9200	*8300	*8300	6100	*6500	4200	*2400		*2400	*2400	
0 m	Rear dozer up	16 100			9800	8300		5400	5300	3500	3500		2300	*2500		1700	8.78
	Rear dozer down		*16 400		11 600		*11 800	6200		4000		2600		*2500		2000	
	Rear stab down		*16 400		14 600		*11 800	7600		4900	6100	3200		*2500		2400	
	2 sets stab down	*16 400		*16 400	*11 800		10 800	*8500	*8500	7000	*6600	4700	*2500		*2500	*2500	
	Dozer and stab down	*16 400		*16 400	*11 800		9200	*8500	*8500	6100	*6600	4000	*2500		*2500	*2500	
-1.5 m	Rear dozer up	16 300			9400	8100		5100	5100	3300	3400		2100	*2800		1800	8.26
	Rear dozer down		*19 300		11 200		*11 900	5900		3800		2500		*2800		2200	
	Rear stab down		*19 300		14 500		*11 900	7300		4700	6000	3100		*2800		2700	
	2 sets stab down	*19 300		*19 300	*11 900		11 000	*8600	*8600	6800	*6100	4600	*2800		*2800	*2800	
	Dozer and stab down	*19 300		*19 300	18 800	*11 900		9300	*8600	5800	*6100	3900	*2800		*2800	*2800	
-3.0 m	Rear dozer up	16 200			9300	8000		5000	4900	3100							
	Rear dozer down		*19 800		11 100		*12 300	5800		3600							
	Rear stab down		*19 800		14 400		*12 300	7200		4400							
	2 sets stab down	*19 800		*19 800	*12 300		11 000	*8000	*8000	6600							
	Dozer and stab down	*19 800		*19 800	19 300	*12 300		9200	*8000	5600							
-4.5 m	Rear dozer up	16 300			9400												
	Rear dozer down		*16 600		11 200												
	Rear stab down		*16 600		14 500												
	2 sets stab down	*16 600		*16 600	*16 600												
	Dozer and stab down	*16 600		*16 600	*16 600												

**Long Stick**  
2900 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
																	
6.0 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down							5700	*5800	3800	3800	2500					
								*5800	*5800	4300	*4200	2800					
								*5800	*5800	5200	*4200	3400					
								*5800	*5800	*5800	*4200	*4200					
								*5800	*5800	*5800	*4200	*4200					
4.5 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down				*6600	*6600	5800	5600	*6500	3800	3800	2500	*2000	*2000	1700	8.93	
					*6600	*6600	6200	6200	*6500	4300	*5700	2900	*2000	*2000	2000		
					*6600	*6600	7700	7700	*6500	5100	5600	3500	*2000	*2000	*2000		
					*6600	*6600	9400	9400	*6500	*6500	*5700	5000	*2000	*2000	*2000		
					*6600	*6600	11200	11200	*6500	6200	*5700	4300	*2000	*2000	*2000		
3.0 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	*11 900		10 300	8400	*9600	5500	5400		3600	3800	2500	*1900		1600	9.29	
		*11 900	*11 900	*11 900		*9600	6400	6400	*7300	4100	*6100	2900	*1900	*1900	1800		
		*11 900	*11 900	*11 900		*9600	7700	7700	*7300	5000	5500	3500	*1900	*1900	*1900		
		*11 900	*11 900	*11 900	*9600	*9600	9400	9400	*7300	7000	*6100	5000	*1900	*1900	*1900		
		*11 900	*11 900	*11 900	*9600	*9600	11200	11200	*7300	6100	*6100	4300	*1900	*1900	*1900		
1.5 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	*13 800		9800	8200		5400	5400		3600	3700	2400	*2000		1500	9.37	
		*13 800	*13 800	11 600		*11 200	6200	6200	*8100	4100		2800	*2000	*2000	1800		
		*13 800	*13 800	13 800		*11 200	7500	7500	7700	5000	5500	3400	*2000	*2000	*2000		
		*13 800	*13 800	11 200		*11 200	10 700	10 700	*8100	6900	*6400	4900	*2000	*2000	*2000		
		*13 800	*13 800	11 200		*11 200	9200	9200	*8100	6000	*6400	4200	*2000	*2000	*2000		
0 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	*15 800		9900	8200		5400	5400		3500	3600	2300	*2100		1500	9.18	
		*15 800	*15 800	11 700		*11 700	6200	6200	*8400	4000		2700	*2100	*2100	1800		
		*15 800	*15 800	14 400		*11 700	7500	7500	7700	4900	5400	3300	*2100	*2100	*2100		
		*15 800	*15 800	11 700		*11 700	10 700	10 700	*8400	6900	*6500	4800	*2100	*2100	*2100		
		*15 800	*15 800	11 700		*11 700	9100	9100	*8400	6000	*6500	4100	*2100	*2100	*2100		
-1.5 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	16 300		9400	8100		5100	5200		3400	3400	2100	*2400		1700	8.69	
		*18 700	*18 700	11 200		*11 800	5900	5900	*8500	3900		2500	*2400	*2400	2000		
		*18 700	*18 700	14 500		*11 800	7300	7300	7900	4700	5200	3100	*2400	*2400	*2400		
		*18 700	*18 700	11 800		*11 800	10 900	10 900	*8500	6900	*6500	4600	*2400	*2400	*2400		
		*18 700	*18 700	11 800		*11 800	9300	9300	*8500	5900	*6500	3900	*2400	*2400	*2400		
-3.0 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	16 100		9200	7900		5000	4900		3100							
		*19 500	*19 500	11 000		*12 100	5800	5800	*8500	3600							
		*19 500	*19 500	14 300		*12 100	7200	7200	7600	4400							
		*19 500	*19 500	12 100		*12 100	11 000	11 000	*8500	6600							
		*19 500	*19 500	12 100		*12 100	9100	9100	*8500	5600							
-4.5 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	16 300		9400	7700		4800										
		*18 800	*18 800	11 200		*10 300	5600										
		*18 800	*18 800	14 500		*10 300	6900										
		*18 800	*18 800	10 300		*10 300	8900										
		*18 800	*18 800	10 300		*10 300	8900										



Load point height

\* Limited by hydraulic rather than tipping load. Lift capacity ratings are based on ISO 10567, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Oscillating axle must be locked.



Load over front



Load over rear



















Load over side



















Load at maximum reach

# Lift Capacities – One-piece Boom (5650 mm)

All values are in kg, without bucket, with counterweight (4400 kg) and CW quick coupler (221 kg), heavy lift on.





















Short Stick 2200 mm	 Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
																	
6.0 m	Rear dozer up							5500			3700						
	Rear dozer down								*6400		4200						
4.5 m	Rear dozer up							5300		3500	3700	2400	*2700		2000		8.40
	Rear dozer down								*6900	4000		*6100	2800		2300		
3.0 m	Rear dozer up				7900		5000	5100		3300	3600	2300	*2700		1800		8.79
	Rear dozer down					*10 400	5800			3800		2700		*2700	2100		
1.5 m	Rear dozer up				7400		4600	4800		3100	3500	2200	*2700		1700		8.88
	Rear dozer down					*11 700	5300		*8400	3600		2600		*2700	2000		
0 m	Rear dozer up				7200		4400	4700		2900	3400	2100	2800		1800		8.67
	Rear dozer down					*11 800	5100		8500	3400		2500		*2900	2000		
-1.5 m	Rear dozer up	*7900		*7900	7100		4400	4600		2900	3400	2100	3100		1900		8.14
	Rear dozer down		*7900	*7900		*10 900	5100		*8100	3400		2500		*3200	2200		
-3.0 m	Rear dozer up	*11 700		8500	7200		4400	4700		3000							
	Rear dozer down		*11 700	10 100		*9100	5200		*6700	3400							

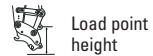
## Medium Stick 2500 mm

Medium Stick 2500 mm	 Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
																	
6.0 m	Rear dozer up										*2900		2400				
	Rear dozer down											*2900	2800				
4.5 m	Rear dozer up							5400		3600	3700	2400	*2400		1900		8.13
	Rear dozer down								*6600	4100		*5900	2800		2200		
3.0 m	Rear dozer up				8000		5100	5100		3300	3600	2300	*2400		1700		8.53
	Rear dozer down					*10 000	5900		*7500	3800		2700		*2400	2000		
1.5 m	Rear dozer up				7400		4600	4900		3100	3500	2200	*2400		1600		8.62
	Rear dozer down					*11 500	5400		*8200	3600		2600		2400	1900		
0 m	Rear dozer up				7200		4400	4700		2900	3400	2100	*2600		1700		8.41
	Rear dozer down					*11 900	5100		8500	3400		2500		*2600	1900		
-1.5 m	Rear dozer up	*9100		8200	7100		4300	4600		2900	3400	2100	2900		1800		7.88
	Rear dozer down		*9100	*9100		*11 200	5100		*8300	3300		2400		*3000	2100		
-3.0 m	Rear dozer up	*12 800		8400	7200		4400	4600		2900							
	Rear dozer down		*12 800	10 000		*9600	5100		*7100	3400							
-4.5 m	Rear dozer up			*6500			4600										
	Rear dozer down				*6500		5400										

# Long Stick

2900 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m			9.0 m						m		
																						
6.0 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down										3800		2500									
												*4400	2800									
												*4400	3400									
													*4400	4300								
4.5 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down							5400		3600	3700		2400						*2000		1700	9.04
									*6300	4100			2800						*2000	*2000	*2000	
									*6300	4900			3400						*2000	*2000	*2000	
									*6300	6100			4900						*2000	*2000	*2000	
									*6300	6100			4200						*2000	*2000	*2000	
3.0 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down				8100		5200	5100		3300	3600		2300						*2000		1600	9.40
						*9400	6000			3800			2700							*2000	1800	
						*9400	7300		*7100	4700			3300							*2000	*2000	
						*9400	9300	*7100		6900	*6000		4800							*2000	*2000	
						*9400	9300	*7100		5800	*6000		4100							*2000	*2000	
1.5 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down				7500		4700	4900		3100	3500		2200	*2600		1600			*2100		1500	9.48
						*11 200	5400			3600			2500		*2600	1900			*2100	*2100	1700	
						*11 200	6800		7500	4400			3100		*2600	2300			*2100	*2100	*2100	
						*11 200	10 500	*8000		6600	*6400		4600	*2600		*2600			*2100	*2100	*2100	
						*11 200	8700	*8000		5600	*6400		4000	*2600		*2600			*2100	*2100	*2100	
0 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down				7200		4400	4700		2900	3400		2100						*2200		1500	9.28
						*11 800	5100			3400			2400							*2200	1800	
						*11 800	6400		*8500	4200			3000							*2200	*2200	
						*11 800	10 100	*8500		6300	*6600		4500							*2200	*2200	
						*11 800	8300	*8500		5400	*6600		3800							*2200	*2200	
-1.5 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	*8700		8000	7000		4300	4600		2800	3300		2000						*2500		1600	8.80
			*8700	*8700		*11 400	5000			3300			2500							*2500	1900	
			*8700	*8700		*11 400	6300		7200	4100			3000							*2500	*2500	
							10 000	*8300		6200	*6300		4500							*2500	*2500	
							8200	*8300		5300	*6300		3800							*2500	*2500	
-3.0 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	*14 000		8200	7100		4300	4600		2800	3300		2100									
			*14 000	9800		*10 100	5000			3300			2400									
			*14 000	12 900		*10 100	6600		7200	4100			3000									
							10 000	*7400		6300	*4600		4500									
							8200	*7400		5300	*4600		3800									
-4.5 m	Rear dozer up Rear dozer down Rear stab down 2 sets stab down Dozer and stab down	*10 000		8500	7300		4500	4700		3000												
			*10 000	*10 000		*7500	5200			3500												
			*10 000	*10 000		*7500	6500		*5000	4300												
							7500			5000												
							*7500	*5000		5000												



Load point height

\* Limited by hydraulic rather than tipping load. Lift capacity ratings are based on ISO 10567, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Oscillating axle must be locked.



Load over front



Load over rear

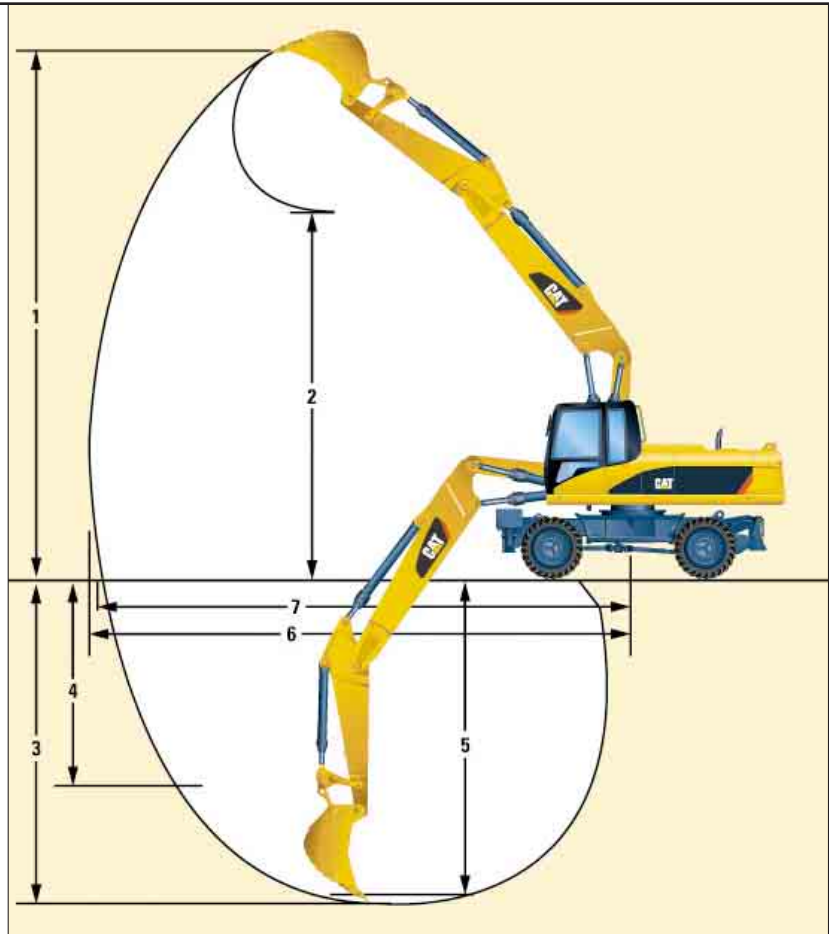


Load over side



Load at maximum reach

## Working Ranges



		VA Boom			One-piece Boom		
Stick length	mm	<b>2200</b>	<b>2500</b>	<b>2900</b>	<b>2200</b>	<b>2500</b>	<b>2900</b>
<b>1</b> Digging height	mm	10 560	10 620	10 930	9670	9540	9760
<b>2</b> Dump height	mm	6930	7170	7500	6300	6230	6450
<b>3</b> Digging depth	mm	5990	6280	6680	5770	6070	6470
<b>4</b> Vertical wall digging depth	mm	4420	4450	4830	4480	4780	5160
<b>5</b> Depth 2.5 m straight clean-up	mm	5780	6090	6510	5570	5880	6300
<b>6</b> Reach	mm	9770	10 000	10 390	9890	10 100	10 490
<b>7</b> Reach at ground level	mm	9590	9830	10 230	9720	9930	10 320
Bucket forces (ISO 6015)	kN	140	140	140	140	140	140
Stick forces (ISO 6015)	kN	123	114	104	123	114	104

Values 1-7 are calculated with bucket and quick coupler with a tip radius of 1712 mm.  
Breakout force values are calculated with heavy lift on (no quick coupler) and a tip radius of 1511 mm.

## Standard Equipment

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

### Electrical

Alternator, 75 A  
Lights  
  Boom working light  
  Cab interior light  
  Roading lights (two front, two rear)  
Main shut-off switch  
Maintenance free batteries  
Signal/warning horn

### Engine

Automatic engine speed control  
Automatic starting aid  
Cat C6.6 with ACERT Technology  
  EU Stage IIIA compliant  
Fuel/water separator with level indicator

### Hydraulics

Cat XT-6 ES hoses  
Heavy lift mode  
Load-sensing Plus hydraulic system  
Manual work modes (economy, power)  
Separate swing pump  
Stick regeneration circuit

### Operator Station

Adjustable armrests  
Ash tray with cigarette lighter (24 volt)  
Beverage cup/can holder  
Bolt-on FOGS capability  
Bottle holder  
Coat hook  
Floor mat, washable, with storage compartment  
Fully adjustable suspension seat  
Heater and defroster  
Instrument panel and gauges  
  Information and warning messages in local language  
  Gauges for fuel level, engine coolant and hydraulic oil temperature  
  Filters/fluids change interval, working hour  
  Indicators for headlights, turning signal, low fuel, engine dial setting  
  Clock with 10-day backup battery  
Laminated front windshield  
Left side console, tiltable, with lock out for all controls  
Literature compartment behind seat  
Literature holder in right console  
Mobile phone holder  
Parking brake

Parallel mounted top and bottom wiper and washer  
Positive filtered ventilation, pressurized cab  
Power supply, 12V-7A  
Rear window, emergency exit  
Retractable seat belt  
Skylight  
Sliding door windows  
Steering column, tiltable  
Storage area suitable for a lunch box  
Sunshade for windshield and skylight

### Undercarriage

Bolt-on design for front attachments  
Heavy-duty axles, advanced travel motor, adjustable braking force  
Oscillating front axle with remote greasing  
Pin-on design for rear attachments  
Tires, 11.00-20 16 PR, dual  
Tool box in undercarriage  
Two-piece drive shaft  
Two-speed transmission, manual and automatic gear shifting

### Other Equipment

Automatic swing brake  
Counterweight, 3900 kg  
Mirrors, frame and cab  
Product Link ready

## Optional Equipment

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

### Auxiliary Controls and Lines

Auxiliary boom and stick lines  
Anti-drift valves for bucket, stick, VA boom and tool control/multi-function circuits  
Basic control circuits:  
  Single action  
    One-way, high pressure circuit, for hammering application  
  Medium pressure  
    Two-way, medium pressure circuit, for rotating or tilting of work tools  
  Tool control/multi function  
    One/two-way high pressure for hammer application or opening and closing of a work tool  
    Programmable flow and pressure for up to 10 work tools - selection via monitor  
  Second high pressure  
    Additional two-way, high pressure circuit, for tools requiring a second high or medium pressure function  
  Quick coupler control  
  Biodegradable hydraulic oil (synthetic ester based)  
  Generator with valve and priority function  
  Lowering control devices for boom and stick  
  SmartBoom

### Front Linkage

Booms  
  One-piece boom, 5650 mm  
  VA boom (two piece), 5440 mm  
Bucket linkage  
Bucket linkage with diverter valve  
Sticks  
  2200, 2500, 2900 mm

### Electrical

Back-up alarm with three selectable modes  
Heavy-duty maintenance free batteries  
Roading lights, rear (LED modules)  
Refueling pump  
Rotating beacon on cab  
Working lights, cab mounted (front and rear)

### Operator Station

Adjustable hydraulic sensitivity  
Air conditioner, heater and defroster with automatic climate control  
Camera mounted on counterweight, displays through cab monitor  
Falling objects guard  
Fixed cab riser, 1200 mm  
Joystick steering  
Lid for storage compartment  
Radio ready mounting (12 V or 24 V) at rear location including speakers and 12 V converter

Seat, adjustable high-back  
  – mechanical suspension  
  – air suspension (vertical)  
  – deluxe with headrest, air suspension  
Headrest  
Travel speed lock  
Vandalism guards  
Visor for rain protection  
Windshield  
  One-piece high impact resistant  
  50/50 split, openable; 70/30 split, openable

### Undercarriage

Dozer blade, rear mounted  
Outriggers, front and/or rear mounted  
Second tool box for undercarriage  
Spacer rings for tires

### Other Equipment

Auto-lube system (implements and swing gear)  
Cat Machine Security System  
Cat Product Link  
Counterweight, 4400 or 5400 kg  
Custom paint  
Mirrors heated, frame and cab  
Ride Control  
Tires (see pg.14)  
Tool box in upperframe, lockable  
Waste Handling Package

# M322D Wheel Excavator

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)

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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