M313D

Wheel Excavator

Cat® C4.4 engine with ACERT™ Technology	
Net power (ISO 9249) at 2000 rpm	95 kW/129 hp
Operating weight	14 000 to 16 200 kg
Bucket capacities	0.18 to 0.92 m^3
Maximum reach at ground level	9770 mm
Maximum digging depth	5750 mm
Maximum travel speed	37 km/h

M313D Wheel Excavator

The D Series incorporates innovations for improved performance and versatility.

Engine

✔ Caterpillar's exclusive ACERT™ Technology surpasses the most stringent emissions requirements in the construction industry. The EU Stage IIIA compliant C4.4 offers increased performance and reliability while reducing fuel consumption and sound levels. **pg. 4**

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**

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**

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**

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*

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**

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. 8**

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. 9**

Versatility

Caterpillar offers a wide variety of factory-installed attachments that enhance performance and job site management. **pg. 12**

Serviceability

For increased safety, all daily maintenance points are accessible from ground level. A centralized greasing system allows lubrication of critical points. **pg. 10**

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. 10**

Engine

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

Powerful Performance.
The Cat C4.4 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 C4.4 engine in the M313D delivers a maximum gross power of 102 kW at a rated speed of 2000 rpm. This is 12% more horsepower as compared to the 3054E in the M313C.

Low Fuel Consumption.
The C4.4 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 C4.4 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 nsumption 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.

Environmentally Responsible Design

The M313D helps build a better world and preserve the fragile environment.

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 C4.4 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 disposal, 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.

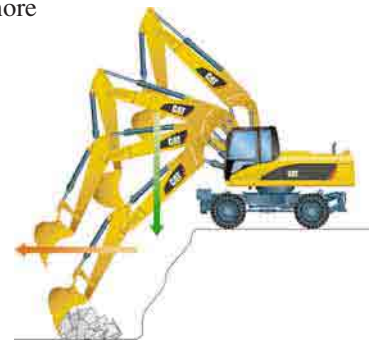
Hydraulic Snubbers. Caterpillar integrates its cylinder snubber technology into all Wheel Excavator boom, stick and bucket cylinders. These snubbers help cushion shocks, reduce sound and increase cylinder life.

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.

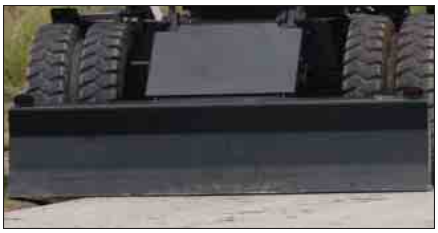
Wipers. The parallel wiper system maximizes visibility in poor weather conditions. The wiper virtually covers the entire front windshield, cleaning the operator’s immediate line of sight.

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.



Increased Travel Speed. The maximum travel speed for the D-Series excavators has been increased from 34 to 37 km/h, reducing travel time between sites and increasing productivity.

Heavy-Duty Axles and Stabilizers. The D-Series 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 three booms and four 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.

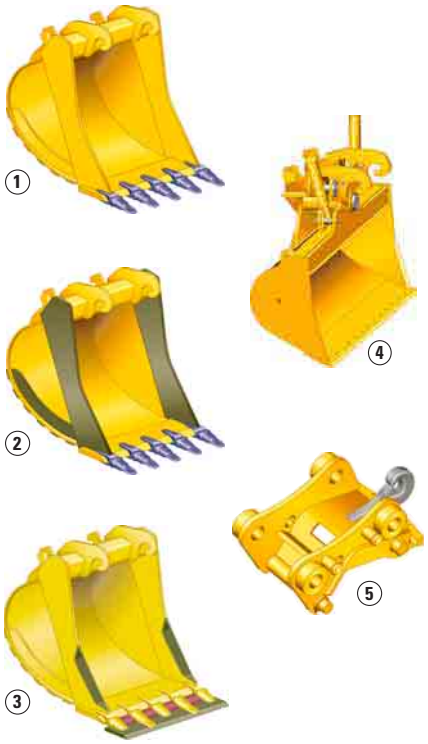
Offset Boom. The large offset dimensions (left/right 2460/2760 mm) allow you to dig along walls, over obstacles, to grade while driving, and to dig under laid tubes without damaging them. The combination with a tiltable ditch cleaning bucket lets you operate a highly versatile system.

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

- Short stick (2000 mm) for maximum breakout force and lifting capability.
- Medium stick (2300 mm) for greater crowd force and lift capacity.
- Long stick (2600 mm) for greater depth and reach requirements.
- Industrial stick (2900 mm) for use with free-swinging grapples in material handling and industrial applications.

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.

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.

Versatility

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

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.

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.

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.

Engine

Cat C4.4 with ACERT Technology	
Ratings	2000 rpm
Gross power	102 kW/139 hp
Net power	
ISO 9249	95 kW/129 hp
80/1269/EEC	95 kW/129 hp
Bore	105 mm
Stroke	127 mm
Displacement	4.4 liters
Cylinders	4
Maximum torque at 1400 rpm	550 Nm

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

Hydraulic System

Tank capacity	95 liters
System	180 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	350 bar
Maximum flow	
Implement/travel circuit	190 l/min
Auxiliary circuit	
high pressure	190 l/min
medium pressure	50 l/min
Swing mechanism	80 l/min

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 102 dB(A).

Transmission

	km/h
Forward/reverse	
1st gear	9
2nd gear	37
Creeper speed	
1st gear	3
2nd gear	13
Drawbar pull	76 kN
Maximum Gradeability	58%

Swing Mechanism

Swing speed	10.5 rpm
Swing torque	35 kNm

Tires

Standard
- 10.00-20 (dual pneumatic)

Optional
- 11.00-20 (dual pneumatic)
- 18 R 19.5 XF (single pneumatic)
- 600/40-22.5 (single pneumatic)
- 10.00-20 (dual solid rubber)

Undercarriage

	mm
Ground clearance	370
Maximum steering angle	35°
Oscillation axle angle	± 9°
Minimum turning radius	
Standard axle	
outside of tire	6200
end of VA boom	6700
end of one-piece boom	8100

Service Refill Capacities

	Liter
Fuel tank	235
Cooling	26
Engine crankcase	8
Rear axle housing (differential)	11.2
Front steering axle (differential)	9
Final drive	2.4
Powershift transmission	2.5

Weights

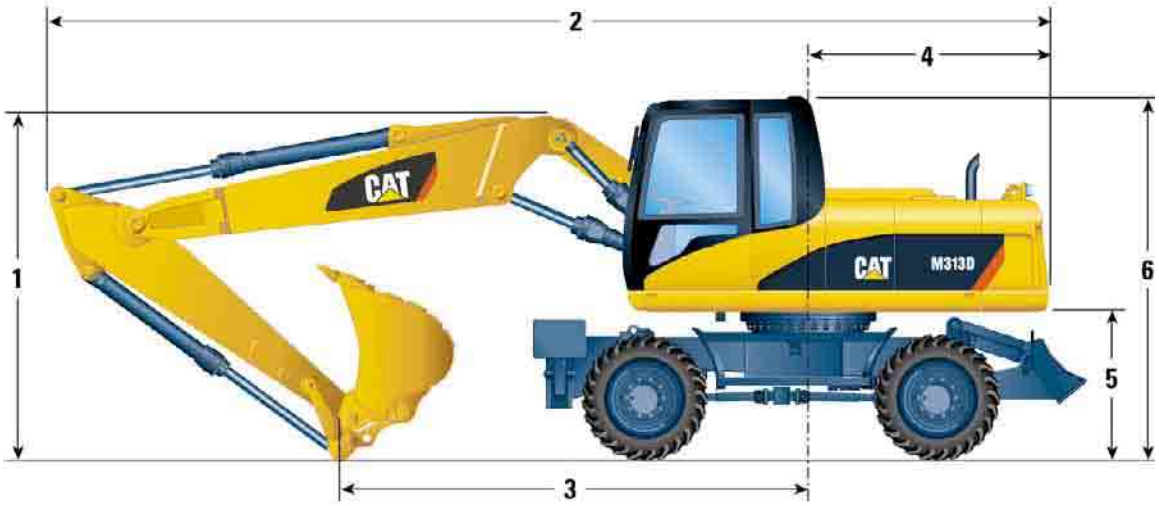
VA boom*	kg
rear dozer only	13 800
rear dozer, front outriggers	14 750
front and rear outriggers	15 050
One-piece boom*	
rear dozer only	13 350
rear dozer, front outriggers	14 300
front and rear outriggers	14 600
Offset boom*	
rear dozer only	14 300
rear dozer, front outriggers	15 250
front and rear outriggers	15 550

Sticks	kg
short (2000 mm)	370
medium (2300 mm)	390
long (2600 mm)	440
industrial (2900 mm)	380
Dozer blade	750
Outriggers	960
Counterweight	
standard	2900
optional	3300

* Machine weight with medium stick, 3300 kg counterweight, full fuel tank and operator, without work tool.

Dimensions

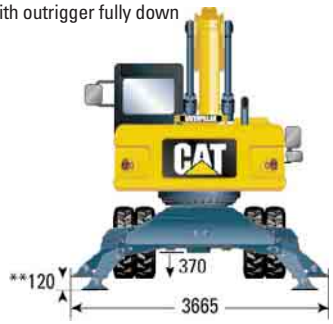
All dimensions are approximate.

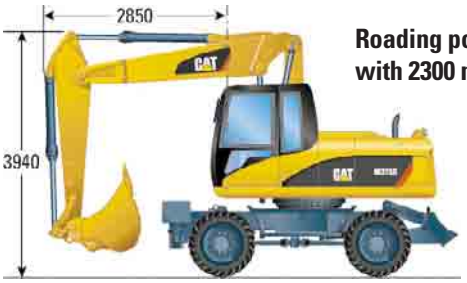


		VA Boom				One-piece Boom				Offset Boom	
Stick length	mm	**2000**	**2300**	**2600**	***2900**	**2000**	**2300**	**2600**	***2900**	**2000**	**2300**
1 Shipping height	mm	3120	3120	3120	3120	3120	3120	3120	3120	3120	3120
2 Shipping length	mm	8310	8300	8290	8130	8090	8080	8090	7950	8300	8300
3 Support point	mm	3820	3470	3320	3580	3480	3120	2950	3170	3820	3460
4 Tail swing radius	mm	2050				2050				2050	
5 Counterweight clearance	mm	1230				1230				1230	
6 Cab height	mm	3120				3120				3120	
with 1200 mm fixed cab riser	mm	4320				4320				4320	

* Industrial stick

** Maximum tire clearance with outrigger fully down



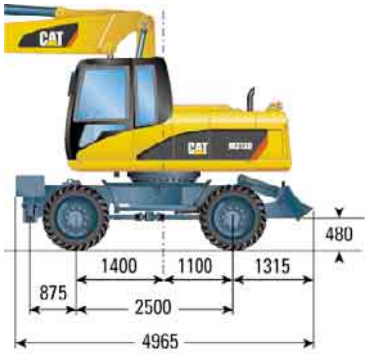


Roading position with 2300 mm stick

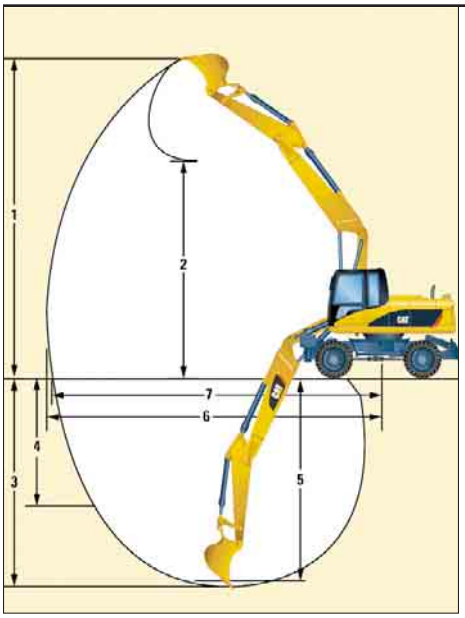
Undercarriage with dozer only

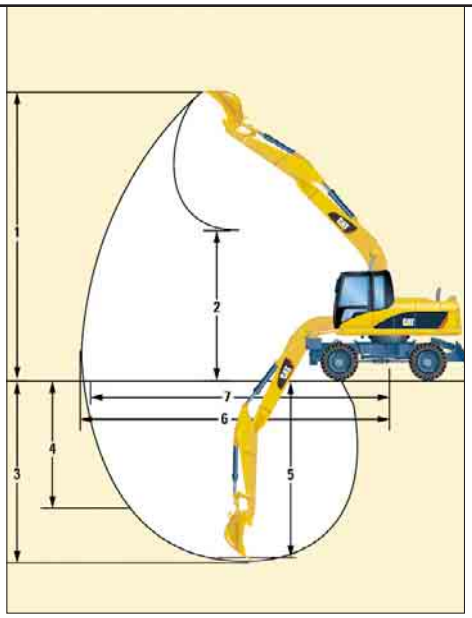
Undercarriage with 2 sets of outriggers

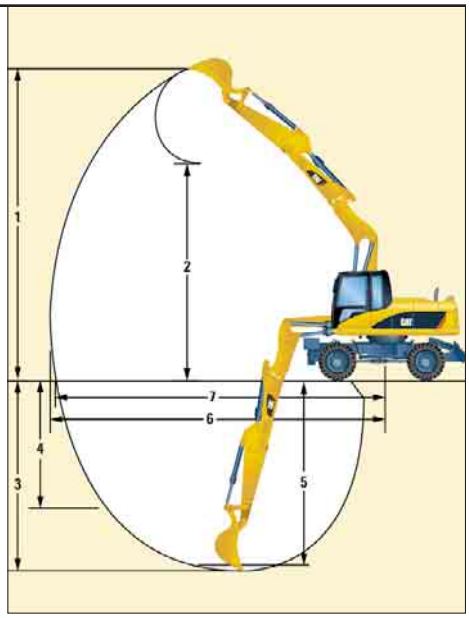
Undercarriage with 1 set of outriggers and dozer



Working Ranges







		VA Boom				One-piece Boom				Offset Boom	
Stick length	mm	**2000**	**2300**	**2600**	***2900**	**2000**	**2300**	**2600**	***2900**	**2000**	**2300**
1 Digging height	mm	9670	9820	10060	8500	8600	8620	8790	7140	9670	9820
2 Dump height	mm	6900	7060	7290	4020	5910	5970	6140	3160	6900	7060
3 Digging depth	mm	5160	5450	5750	4670	4990	5290	5590	4500	5160	5450
4 Vertical wall digging depth	mm	3500	3600	3890	–	3410	3370	3670	–	3500	3600
5 Depth 2.5 m straight clean-up	mm	4920	5230	5550	–	4750	5070	5390	–	4920	5230
6 Reach	mm	8670	8920	9210	7910	8420	8660	8950	7610	8670	8920
7 Reach at ground level	mm	8490	8740	9030	7710	8230	8480	9770	7400	8490	8740
Bucket forces (ISO 6015)	kN	93	93	93	–	93	93	93	–	93	93
Stick forces (ISO 6015)	kN	73	67	62	–	73	67	62	–	73	67

Values 1-7 are calculated with bucket and quick coupler with a tip radius of 1552 mm.
Breakout force values are calculated with heavy lift on (no quick coupler) and a tip radius of 1405 mm.

* Industrial stick has no bucket linkage.
All dimensions refer to sticknose.

Bucket Specifications

Contact your Caterpillar dealer for special bucket requirements.

Pin-on Buckets	Width	Weight*	Capacity (ISO)	Adapters	Variable Adjustable Boom 5020 mm												One-piece Boom 4815 mm											
Stick length					2000 mm				2300 mm				2600 mm				2000 mm				2300 mm				2600 mm			
					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	Free on wheels	Dozer lowered	1 set of stabilizer lowered	Fully stabilized
	mm	kg	m^3																									
Excavation	450	312	0.18	3																								
	600	345	0.28	3																								
	750	362	0.38	4																								
	900	403	0.49	4																								
	1000	427	0.56	4																								
	1100	463	0.64	5																								
	1200	486	0.72	5																								
Extreme Excavation	1200	496	0.72	5																								
Excavation (leveling)	600	382	0.38	3																								
	750	407	0.50	3																								
	800	422	0.54	3																								
	900	443	0.64	4																								
	1000	484	0.73	4																								
	1100	519	0.82	4																								
	1200	546	0.92	5																								
Extreme Excavation (leveling)	1200	557	0.84	5																								
Ditch Cleaning	1800	465	0.73																									
	2000	495	0.83																									
Tiltable Ditch Cleaning	1800	690	0.61																									
	2000	720	0.68																									

CW Quick Coupler Buckets																												
Excavation	600	339	0.28	3																								
	750	352	0.38	3																								
	900	390	0.49	4																								
	1000	413	0.56	4																								
	1100	450	0.64	4																								
	1200	473	0.72	5																								
Extreme Excavation	1200	483	0.72	5																								
Excavation (leveling)	600	390	0.38	3																								
	750	435	0.50	4																								
	800	409	0.54	3																								
	900	443	0.64	4																								
	1000	470	0.73	4																								
	1100	505	0.82	4																								
	1200	533	0.92	5																								
Extreme Excavation (leveling)	600	396	0.38	3																								
	800	416	0.54	3																								
	1200	544	0.92	5																								
Ditch Cleaning	1800	430	0.73																									
	2000	460	0.83																									
Tiltable Ditch Cleaning	1800	650	0.61																									
	2000	680	0.68																									

* Bucket weight includes Ground Engaging Tools

Maximum material density 1800 kg/m³

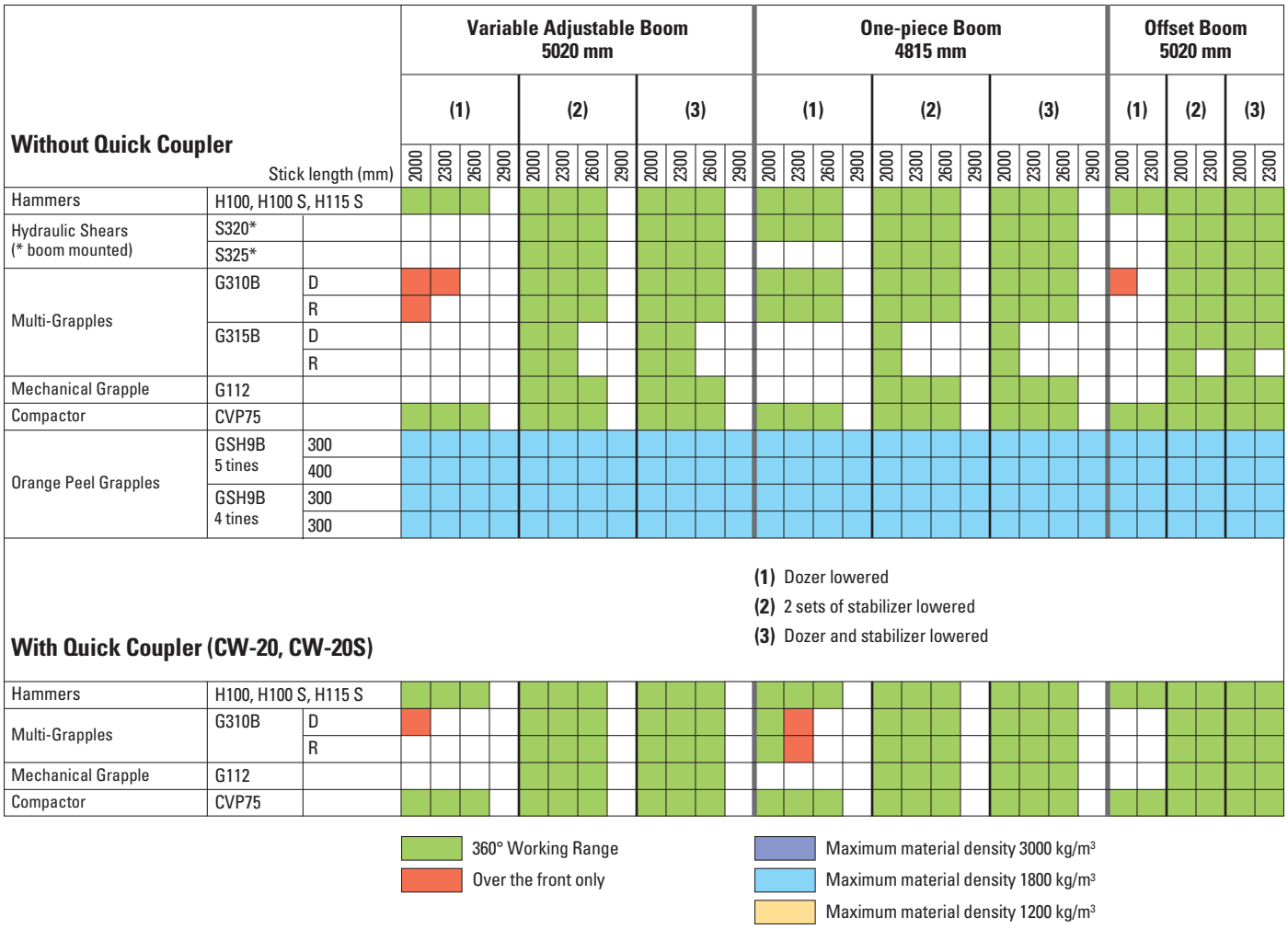
Maximum material density 1500 kg/m³

Maximum material density 1200 kg/m³

Not recommended

Work Tools Matching Guide

When choosing between various work tool models that can be installed onto the same machine configuration, consider work tool application, productivity requirements, and durability. Refer to work tool specifications for application recommendations and productivity information.



Lift Capacities – Variable Adjustable Boom (5020 mm)

All values are in kg, without bucket, with counterweight (3300 kg) and CW quick coupler (204 kg), heavy lift on.

Short Stick 2000 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up				*4400		3600	3400		2100							
	Rear dozer down					*4400	4100		*3600	2500							
	Rear stab down					*4400	*4400		*3600	3000							
	2 sets stab down				*4400		*4400	*3600		*3600							
	Dozer and stab down				*4400		*4400	*3600		3600							
4.5 m	Rear dozer up	*4900		4900	*5200		3500	3500		2200				*2300		1500	7.37
	Rear dozer down		*4900	4900		*5200	4000		*4300	2500					*2300	1800	
	Rear stab down		*4900	*4900		*5200	4900		*4300	3100					*2300	2200	
	2 sets stab down	*4900		*4900	*5200		*5200	*4300		*4300				*2300		*2300	
	Dozer and stab down	*4900		*4900	*5200		*5200	*4300		3800				*2300		*2300	
3.0 m	Rear dozer up	*7400		6200	5300		3400	3500		2200				*2200		1300	7.83
	Rear dozer down		*7400	7200		*6000	3900		*4500	2500					*2200	1600	
	Rear stab down		*7400	*7400		*6000	4700		*4500	3100					*2200	1900	
	2 sets stab down	*7400		*7400	*6000		*6000	*4500		4400				*2200		*2200	
	Dozer and stab down	*7400		*7400	*6000		5700	*4500		3700				*2200		*2200	
1.5 m	Rear dozer up	*8600		6100	5300		3400	3400		2100				2100		1300	7.94
	Rear dozer down		*8600	7100		*6600	3900		*4700	2500					*2300	1500	
	Rear stab down		*8600	*8600		*6600	4700		4600	3000					*2300	1900	
	2 sets stab down	*8600		*8600	*6600		*6600	*4700		4400				*2300		*2300	
	Dozer and stab down	*8600		*8600	*6600		*5600	*4700		3700				*2300		*2300	
0 m	Rear dozer up	10200		5900	5300		3300	3300		2000				2200		1300	7.73
	Rear dozer down		*10200	7000		*6600	3800		*4800	2400					*2500	1500	
	Rear stab down		*10200	8900		*6600	4700		4700	2900					*2500	1900	
	2 sets stab down	*10200		*10200	*6600		*6600	*4800		4300				*2500		*2500	
	Dozer and stab down	*10200		*10200	*6600		5700	*4800		3600				*2500		2400	
-1.5 m	Rear dozer up	10400		5800	5200		3100	3200		1900				2500		1500	7.15
	Rear dozer down		*10800	6800		*6800	3600		*4500	2300					*2800	1700	
	Rear stab down		*10800	8900		*6800	4500		*4500	2800					*2800	2200	
	2 sets stab down	*10800		*10800	*6800		*6800	*4500		4200				*2800		*2800	
	Dozer and stab down	*10800		*10800	*6800		5600	*4500		3500				*2800		2700	
-3.0 m	Rear dozer up	10400		5700	5000		3000										
	Rear dozer down		*10500	6800		*5600	3500										
	Rear stab down		*10500	8800		*5600	4400										
	2 sets stab down	*10500		*10500	*5600		*5600										
	Dozer and stab down	*10500		*10500	*5600		5500										

Medium Stick 2300 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up				*4000		3600	*3500		2200							
	Rear dozer down					*4000	4000		*3600	2500							
	Rear stab down					*4000	*4000		*3600	3100							
	2 sets stab down				*4000		*4000	*3600		*3600							
	Dozer and stab down				*4000		*4000	*3600		*3600							
4.5 m	Rear dozer up	*4000		*4000	*4600		3500	3500		2200				*2000		1400	7.65
	Rear dozer down		*4000	*4000		*4600	4000		*4100	2600					*2000	1700	
	Rear stab down		*4000	*4000		*4600	*4600		*4100	3100					*2000	*2000	
	2 sets stab down	*4000		*4000	*4600		*4600	*4100		*4100				*2000		*2000	
	Dozer and stab down	*4000		*4000	*4600		*4600	*4100		3800				*2000		*2000	
3.0 m	Rear dozer up	*7900		6300	5300		3500	3500		2200	2300		1400	*2000		1300	8.08
	Rear dozer down		*7900	7200		*5800	4000		*4400	2600		3100	1600		*2000	1500	
	Rear stab down		*7900	*7900		*5800	4800		*4400	3100		3100	2000		*2000	1800	
	2 sets stab down	*7900		*7900	*5800		*5800	*4400		*4400	*3100		*3100	*2000		*2000	
	Dozer and stab down	*7900		*7900	*5800		5700	*4400		3700	*3100		2500	*2000		*2000	
1.5 m	Rear dozer up	*8800		6200	*5200		3400	3500		2200	2300		1400	2000		1200	8.19
	Rear dozer down		*8800	7100		*6500	3900		*4700	2500		3600	1600		*2000	1400	
	Rear stab down		*8800	*8800		*6500	4700		4600	3100		3200	2000		*2000	1800	
	2 sets stab down	*8800		*8800	*6500		*6500	*4700		4400	*3700		3000	*2000		*2000	
	Dozer and stab down	*8800		*8800	*6500		5600	*4700		3700	*3700		2500	*2000		*2000	
0 m	Rear dozer up	*10000		6000	5300		3300	3300		2100	2300		1300	2100		1200	7.98
	Rear dozer down		*10000	7100		*6600	3800		*4800	2400		*3000	1600		*2200	1400	
	Rear stab down		*10000	8900		*6600	4700		4600	3300		*3000	2000		*2200	1800	
	2 sets stab down	*10000		*10000	*6600		*6600	*4800		4400	*3000		3000	*2200		*2200	
	Dozer and stab down	*10000		*10000	*6600		5700	*4800		3600	*3000		2500	*2200		*2200	
-1.5 m	Rear dozer up	10400		5800	5200		3200	3200		1900				2300		1400	7.43
	Rear dozer down		*10700	6900		*6700	3700		*4700	2300					*2500	1600	
	Rear stab down		*10700	8900		*6700	4600		4600	2800					*2500	2000	
	2 sets stab down	*10700		*10700	*6700		*6700	*4700		4300				*2500		*2500	
	Dozer and stab down	*10700		*10700	*6700		5700	*4700		3500				*2500		2500	
-3.0 m	Rear dozer up	10400		5800	5000		3000										
	Rear dozer down		*10900	6900		*6200	3500										
	Rear stab down		*10900	8900		*6200	4400										
	2 sets stab down	*10900		*10900	*6200		*6200										
	Dozer and stab down	*10900		*10900	*6200		5500										

Long Stick
2600 mm

Load point height	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up				*3500		3500	*3400		2200							
	Rear dozer down					*3500	*3500		*3400	2600							
	Rear stab down					*3500	*3500		*3400	3100							
	2 sets stab down				*3500		*3500	*3400		*3400							
	Dozer and stab down				*3500		*3500	*3400		*3400							
4.5 m	Rear dozer up				3900		3500	3500		2300	*2100		1400	*1700		1300	7.96
	Rear dozer down					*3900	3900		*3900	2600		*2100	1700		*1700	1500	
	Rear stab down					*3900	3900		*3900	3100		*2100	2100		*1700	*1700	
	2 sets stab down				*3900		*3900	*3900		*3900	*2100		*2100	*1700		*1700	
	Dozer and stab down				*3900		*3900	*3900		3800	*2100		*2100	*1700		*1700	
3.0 m	Rear dozer up	*7600		6300	5300		3400	3500		2300	2300		1400	*1700		1200	8.38
	Rear dozer down		*7600	7200		*5600	3900		*4300	2600		*3500	1700		*1700	1400	
	Rear stab down		*7600	*7600		*5600	4700		*4300	3100		3300	2100		*1700	*1700	
	2 sets stab down	*7600		*7600	*5600		*5600	*4300		*4300	*3500		3100	*1700		*1700	
	Dozer and stab down	*7600		*7600	*5600		*5600	*4300		3700	*3500		2500	*1700		*1700	
1.5 m	Rear dozer up	*8600		6100	5200		3400	3500		2200	2300		1400	*1800		1100	8.48
	Rear dozer down		*8600	7100		*6300	3900		*4600	2500		3600	1600		*1800	1300	
	Rear stab down		*8600	*8600		*6300	4700		*4600	3100		3200	2000		*1800	1700	
	2 sets stab down	*8600		*8600	*6300		*6300	*4600		4300	*3600		3000	*1800		*1800	
	Dozer and stab down	*8600		*8600	*6300		5600	*4600		3700	*3600		2500	*1800		*1800	
0 m	Rear dozer up	*9800		6000	5200		3300	3400		2100	2300		300	*1900		1100	8.28
	Rear dozer down		*9800	7100		*6500	3800		*4700	2400		*3500	1600		*1900	1300	
	Rear stab down		*9800	8800		*6500	4700		4600	3000		3200	2000		*1900	1700	
	2 sets stab down	*9800		*9800	*6500		*6500	*4700		4400	*3500		3000	*1900		*1900	
	Dozer and stab down	*9800		*9800	*6500		5600	*4700		3600	*3500		2500	*1900		*1900	
-1.5 m	Rear dozer up	10200		5700	5200		3100	3200		2000				2100		1300	7.75
	Rear dozer down		*10600	6800		*6600	3700		*4800	2300					*2200	1500	
	Rear stab down		*10600	8900		*6600	4600		4600	2800					*2200	1900	
	2 sets stab down	*10600		*10600	*6600		*6600	*4800		4300				*2200		*2200	
	Dozer and stab down	*10600		*10600	*6600		5700	*4800		3500				*2200		*2200	
-3.0 m	Rear dozer up	10400		5700	5000		3000	3100		1900							
	Rear dozer down		*11000	6800		*6600	3500		*3500	2200							
	Rear stab down		*11000	8800		*6600	4400		*3500	2800							
	2 sets stab down	*11000		*11000	*6600		*6600	*3500		*3500							
	Dozer and stab down	*11000		*11000	*6600		5500	*3500		3400							
-4.5 m	Rear dozer up	6600		5600													
	Rear dozer down		*6600	6600													
	Rear stab down		*6600	*6600													
	2 sets stab down	*6600		*6600													
	Dozer and stab down	*6600		*6600													

Load over front

Load over rear

Load over side

Load at maximum reach

Load point height

Industrial Stick
2900 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up				*4100		3900	3800		2600							
	Rear dozer down					*4100	*4100		*4000	2900							
	Rear stab down					*4100	*4100		*4000	3400							
	2 sets stab down				*4100		*4100	*4000		*4000							
	Dozer and stab down				*4100		*4100	*4000		*4000							
4.5 m	Rear dozer up				*4600		3800	3800		2600				2700		1800	7.39
	Rear dozer down					*4600	4300		*4300	2900					*3100	2000	
	Rear stab down					*4600	*4600		*4300	3400					*3100	2500	
	2 sets stab down				*4600		*4600	*4300		*4300				*3100		*3100	
	Dozer and stab down				*4600		*4600	*4300		4100				*3100		3000	
3.0 m	Rear dozer up	*7300		6600	5600		3700	3800		2600	2700		1700	2500		1600	7.80
	Rear dozer down		*7300	*7300		*5900	4300		*4600	2900		*3900	2000		*3200	1800	
	Rear stab down		*7300	*7300		*5900	5100		*4600	*3400		3600	2400		*3200	2200	
	2 sets stab down	*7300		*7300	*5900		*5900	*4600		*4600	*3900		3400	*3200		*3200	
	Dozer and stab down	*7300		*7300	*5900		*5900	*4600		4000	*3900		2900	*3200		2700	
1.5 m	Rear dozer up	*9400		6500	5500		3700	*3800		2500	2600		1700	2400		1600	7.90
	Rear dozer down		*9400	7400		*6700	4200		*5000	2800		4000	1900		*3400	1800	
	Rear stab down		*9400	9100		*6700	5000		4900	3400		3500	2300		3300	2100	
	2 sets stab down	*9400		*9400	*6700		*6700	*5000		4600	*4000		3400	*3400		3100	
	Dozer and stab down	*9400		*9400	*6700		5900	*5000		4000	*4000		2800	*3400		2600	
0 m	Rear dozer up	*10400		6400	5600		3600	3700		2400	2600		1600	2500		1600	7.71
	Rear dozer down		*10400	7400		*6900	4100		*5100	2700		3900	1900		*3700	1800	
	Rear stab down		*10400	9200		*6900	5000		4900	3300		3500	2300		3300	2200	
	2 sets stab down	*10400		*10400	*6900		*6900	*5100		4700	*3900		3300	*3700		3200	
	Dozer and stab down	*10400		*10400	*6900		5900	*5100		3900	*3900		2800	*3700		2700	
-1.5 m	Rear dozer up	10600		6100	5500		3500	3500		2200				2700		1700	7.18
	Rear dozer down		*11100	7200		*7000	4000		*5200	2600					*3600	2000	
	Rear stab down		*11100	9200		*7000	4900		4900	3100					*3600	2400	
	2 sets stab down	*11100		*11100	*7000		*7000	*5200		4600				*3600		3500	
	Dozer and stab down	*11100		*11100	*7000		6000	*5200		3800				*3600		2900	
-3.0 m	Rear dozer up	10700		6000	5300		3300	3400		2200							
	Rear dozer down		*11300	7100		*6900	3800		*3900	2500							
	Rear stab down		*11300	9100		*6900	4700		*3900	3000							
	2 sets stab down	*11300		*11300	*6900		*6900	*3900		*3900							
	Dozer and stab down	*11300		*11300	*6900		5700	*3900		3700							
-4.5 m	Rear dozer up	*6900		5800													
	Rear dozer down		*6900	6900													
	Rear stab down		*6900	6900													
	2 sets stab down	*6900		*6900													
	Dozer and stab down	*6900		6900													

* 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.

Lift Capacities – One-piece Boom (4815 mm)

All values are in kg, without bucket, with counterweight (3300 kg) and CW quick coupler (204 kg), heavy lift on.

Short Stick 2000 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
4.5 m	Rear dozer up				*4800		3400	3400		2200				*2100		1700	7.11
	Rear dozer down					*4800	3900		*4200	2500					*2100	1900	
	Rear stab down					*4800	*4800		*4200	3000				*2100	*2100	*2100	
	2 sets stab down				*4800		*4800	*4200		*4200				*2100		*2100	
	Dozer and stab down				*4800		*4800	*4200		3700				*2100		*2100	
3.0 m	Rear dozer up				5200		3200	3300		2100				*2100		1500	7.50
	Rear dozer down					*5700	3700		*4500	2400					*2100	1700	
	Rear stab down					*5700	4600		*4500	3000				*2100	*2100	*2100	
	2 sets stab down				*5700		*5700	*4500		4400				*2100		*2100	
	Dozer and stab down				*5700		*5700	*4500		3600				*2100		*2100	
1.5 m	Rear dozer up				5000		3000	3200		2000				*2100		1400	7.70
	Rear dozer down					*6500	3500		*4800	2300					*2100	1600	
	Rear stab down					*6500	4400		4600	2900				*2100	*2100	2000	
	2 sets stab down				*6500		*6500	*4800		4300				*2100		*2100	
	Dozer and stab down				*6500		5400	*4800		3500				*2100		*2100	
0 m	Rear dozer up				4900		2900	3200		1900				*2300		1400	7.47
	Rear dozer down					*6700	3400		*4800	2200					*2300	1700	
	Rear stab down					*6700	4200		4500	2800				*2300	*2300	2000	
	2 sets stab down				*6700		6600	*4800		4200				*2300		*2300	
	Dozer and stab down				*6700		5300	*4800		3400				*2300		*2300	
-1.5 m	Rear dozer up	*7900		5300	4800		2900	3200		1900				2600		1600	6.87
	Rear dozer down		*7900	6300		*6100	3300		*4300	2200					*2700	1900	
	Rear stab down		*7900	*7900		*6100	4200		*4300	2800					*2700	2300	
	2 sets stab down	*7900		*7900	*6100		*6100	*4300		4200				*2700		*2700	
	Dozer and stab down	*7900		*7900	*6100		5300	*4300		3400				*2700		*2700	
-3.0 m	Rear dozer up	*6200		5400	*4500		2900										
	Rear dozer down		*6200	*6200		*4500	3400										
	Rear stab down		*6200	*6200		*4500	4300										
	2 sets stab down	*6200		*6200	*4500		*4500										
	Dozer and stab down	*6200		*6200	*4500		*4500										

Medium Stick 2300 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up							*2600		2200							
	Rear dozer down								*2600	2500							
	Rear stab down								*2600	*2600							
	2 sets stab down							*2600		*2600							
	Dozer and stab down							*2600		*2600							
4.5 m	Rear dozer up							3400		2200				*1800		1600	7.37
	Rear dozer down								*4000	2500					*1800	*1800	
	Rear stab down								*4000	3100				*1800	*1800	*1800	
	2 sets stab down							*4000		*4000				*1800		*1800	
	Dozer and stab down							*4000		3700				*1800		*1800	
3.0 m	Rear dozer up				5300		3300	3400		2100				*1800		1400	7.82
	Rear dozer down					*5500	3800		*4300	2400					*1800	1600	
	Rear stab down					*5500	4700		*4300	3000				*1800	*1800	*1800	
	2 sets stab down				*5500		*5500	*4300		*4300				*1800		*1800	
	Dozer and stab down				*5500		*5500	*4300		3600				*1800		*1800	
1.5 m	Rear dozer up				5000		3000	3200		2000				*1900		1300	7.94
	Rear dozer down					*6400	3500		*4700	2300					*1900	1500	
	Rear stab down					*6400	4400		4600	2900				*1900	*1900	*1900	
	2 sets stab down				*6400		*6400	*4700		4300				*1900		*1900	
	Dozer and stab down				*6400		5500	*4700		3500				*1900		*1900	
0 m	Rear dozer up	*4300		*4300	4900		2900	3200		1900				*2100		1300	7.72
	Rear dozer down		*4300	*4300		*6700	3400		*4800	2200					*2100	1600	
	Rear stab down		*4300	*4300		*6700	4200		4500	2800				*2100	*2100	1900	
	2 sets stab down	*4300		*4300	*6700		6600	*4800		4200				*2100		*2100	
	Dozer and stab down	*4300		*4300	*6700		5300	*4800		3400				*2100		*2100	
-1.5 m	Rear dozer up	*7900		5200	4800		2800	3100		1900				*2400		1500	7.14
	Rear dozer down		*7900	6200		*6300	3300		*4400	2200					*2400	1700	
	Rear stab down		*7900	*7900		*6300	4200		*4400	2800				*2400	*2400	2200	
	2 sets stab down	*7900		*7900	*6300		*6300	*4400		4200				*2400		*2400	
	Dozer and stab down	*7900		*7900	*6300		5300	*4400		3400				*2400		*2400	
-3.0 m	Rear dozer up	*6900		5300	4900		2900										
	Rear dozer down		*6900	6400		*4900	3400										
	Rear stab down		*6900	*6900		*4900	4200										
	2 sets stab down	*6900		*6900	*4900		*4900										
	Dozer and stab down	*6900		*6900	*4900		*4900										

Long Stick
2600 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up							*3000		2200							
	Rear dozer down								*3000	2500							
	Rear stab down								*3000	*3000							
	2 sets stab down							*3000		*3000							
	Dozer and stab down							*3000		*3000							
4.5 m	Rear dozer up							3500		2200				*1600		1500	7.68
	Rear dozer down								*3800	2500					*1600	*1600	
	Rear stab down								*3800	3100					*1600	*1600	
	2 sets stab down							*3800		*3800				*1600		*1600	
	Dozer and stab down							*3800		3700				*1600		*1600	
3.0 m	Rear dozer up	*7800		6100	*5200		3300	3400		2100	2300		1400	*1600		1300	8.11
	Rear dozer down		*7800	7200		*5200	3800		*4200	2400		*2600	1700		*1600	1500	
	Rear stab down		*7800	*7800		*5200	4700		*4200	3000		*2600	2100		*1600	*1600	
	2 sets stab down	*7800		*7800	*5200		*5200	*4200		*4200	*2600		*2600	*1600		*1600	
	Dozer and stab down	*7800		*7800	*5200		*5200	*4200		3600	*2600		2500	*1600		*1600	
1.5 m	Rear dozer up				5000		3000	3200		2000	2300		1400	*1600		1200	8.22
	Rear dozer down					*6200	3500		*4600	2300		*3200	1600		*1600	1400	
	Rear stab down					*6200	4400		*4600	2900		*3200	2000		*1600	*1600	
	2 sets stab down				*6200		*6200	*4600		4300	*3200		3000	*1600		*1600	
	Dozer and stab down				*6200		5500	*4600		3500	*3200		2500	*1600		*1600	
0 m	Rear dozer up	*4600		*4600	4800		2900	3100		1900	2300		1400	*1800		1200	8.01
	Rear dozer down		*4600	*4600		*6700	3400		*4800	2200		*2600	1600		*1800	1500	
	Rear stab down		*4600	*4600		*6700	4200		4500	2800		*2600	2000		*1800	*1800	
	2 sets stab down	*4600		*4600	*6700		6600	*4800		4200	*2600		*2600	*1800		*1800	
	Dozer and stab down	*4600		*4600	*6700		5300	*4800		3400	*2600		2500	*1800		*1800	
-1.5 m	Rear dozer up	*7400		5200	4800		2800	3100		1900				*2100		1400	7.46
	Rear dozer down		*7400	6200		*6400	3300		*4500	2200					*2100	1600	
	Rear stab down		*7400	*7400		*6400	4200		4400	2700					*2100	2000	
	2 sets stab down	*7400		*7400	*6400		*6400	*4500		4100				*2100		*2100	
	Dozer and stab down	*7400		*7400	*6400		5200	*4500		3400				*2100		*2100	
-3.0 m	Rear dozer up	*7500		5200	4800		2800	3100		1900							
	Rear dozer down		*7500	6300		*5200	3300		*3300	2200							
	Rear stab down		*7500	*7500		*5200	4200		*3300	2800							
	2 sets stab down	*7500		*7500	*5200		*5200	*3300		*3300							
	Dozer and stab down	*7500		*7500	*5200		*5200	*3300		*3300							

Load point height

Load over front

Load over rear

Load over side

Load at maximum reach

Load point height

Industrial Stick
2900 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up				*3500		2500										
	Rear dozer down					*3500	2900										
	Rear stab down					*3500	3400										
	2 sets stab down				*3500		*3500										
	Dozer and stab down				*3500		*3500										
4.5 m	Rear dozer up				3800		2500							2900		2000	7.06
	Rear dozer down					*4100	2800								*3000	2200	
	Rear stab down					*4100	3400								*3000	2600	
	2 sets stab down				*4100		*4100							*3000		*3000	
	Dozer and stab down				*4100		4100							*3000		*3000	
3.0 m	Rear dozer up				*5500		3600	3700		2400				2700		1800	7.50
	Rear dozer down					*5500	4100		*4500	2700					*3100	2000	
	Rear stab down					*5500	5000		*4500	3300					*3100	2400	
	2 sets stab down				*5500		*5500	*4500		*4500				*3100		*3100	
	Dozer and stab down				*5500		*5500	*4500		4000				*3100		2900	
1.5 m	Rear dozer up				5400		3400	3600		2300	2600		1700	2600		1700	7.60
	Rear dozer down					*6600	3900		*4900	2600		*3800	1900		*3400	1900	
	Rear stab down					*6600	4800		*4900	3200		3500	2300		*3400	2300	
	2 sets stab down				*6600		*6600	*4900		4600	*3800		3300	*3400		3300	
	Dozer and stab down				*6600		5800	*4900		3800	*3800		2800	*3400		2800	
0 m	Rear dozer up	*6300		5600	5200		3200	3500		2200				2600		1700	7.40
	Rear dozer down		*6300	*6300		*7100	3700		*5200	2500					*3900	1900	
	Rear stab down		*6300	*6300		*7100	4600		4800	3100					3500	2300	
	2 sets stab down	*6300		*6300	*7100		6900	*5200		4500				*3900		3400	
	Dozer and stab down	*6300		*6300	*7100		5600	*5200		3800				*3900		2800	
-1.5 m	Rear dozer up	*9100		5600	5100		3200	3400		2200				2900		1900	6.85
	Rear dozer down		*9100	6600		*6800	3600		*5000	2500					*4100	2100	
	Rear stab down		*9100	8500		*6800	4500		4800	3100					3900	2600	
	2 sets stab down	*9100		*9100	*6800		*6800	*5000		4400				*4100		3700	
	Dozer and stab down	*9100		*9100	*6800		5600	*5000		3700				*4100		3100	
-3.0 m	Rear dozer up	*8100		5600	5100		3200										
	Rear dozer down		*8100	6700		*5700	3700										
	Rear stab down		*8100	*8100		*5700	4500										
	2 sets stab down	*8100		*8100	*5700		*5700										
	Dozer and stab down	*8100		*8100	*5700		5600										

* 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.

Lift Capacities – Offset Boom (5020 mm)

All values are in kg, without bucket, with counterweight (3300 kg) and CW quick coupler (204 kg), heavy lift on.

Short Stick 2000 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up				*4400		3600	3300		2000							
	Rear dozer down					*4400	4100		*3400	2300							
	Rear stab down					*4400	*4400		*3400	2900							
	2 sets stab down				*4400		*4400	*3400		*3400							
	Dozer and stab down				*4400		*4400	*3400		*3400							
4.5 m	Rear dozer up	*5100		5100	*5000		3500	*3400		2100				*2200		1400	7.37
	Rear dozer down		*5100	5100		*5000	4000		*4100	2400					*2200	1600	
	Rear stab down		*5100	*5100		*5000	4800		*4100	3000					*2200	2100	
	2 sets stab down	*5100		*5100	*5000		*5000	*4100		*4100				*2200		*2200	
	Dozer and stab down	*5100		*5100	*5000		*5000	*4100		3700				*2200		*2200	
3.0 m	Rear dozer up	*7200		6100	5200		3400	3400		2100				2100		1200	7.83
	Rear dozer down		*7200	7100		*5700	3900		*4300	2400					*2100	1400	
	Rear stab down		*7200	*7200		*5700	4700		*4300	3000					*2100	1800	
	2 sets stab down	*7200		*7200	*5700		*5700	*4300		4300				*2100		*2100	
	Dozer and stab down	*7200		*7200	*5700		5500	*4300		3600				*2100		*2100	
1.5 m	Rear dozer up	*8400		6000	5100		3300	3300		2000				2000		1100	7.94
	Rear dozer down		*8400	6900		*6200	3800		*4500	2400					*2200	1300	
	Rear stab down		*8400	*8400		*6200	4600		*4500	2900					*2200	1700	
	2 sets stab down	*8400		*8400	*6200		*6200	*4500		*4200				*2200		*2200	
	Dozer and stab down	*8400		*8400	*6200		5500	*4500		3600				*2200		2200	
0 m	Rear dozer up	9800		5600	5200		3100	3200		1900				2000		1100	7.72
	Rear dozer down		*9900	6700		*6300	3700		*4500	2200					*2400	1400	
	Rear stab down		*9900	8700		*6300	4600		*4500	2800					*2400	1800	
	2 sets stab down	*9900		*9900	*6300		*6300	*4500		4200				*2400		*2400	
	Dozer and stab down	*9900		*9900	*6300		5500	*4500		3500				*2400		2200	
-1.5 m	Rear dozer up	10200		5500	5000		3000	3000		1700				2300		1300	7.14
	Rear dozer down		*10400	6600		*6500	3500		*4300	2100					*2600	1600	
	Rear stab down		*10400	8600		*6500	4400		*4300	2600					*2600	2000	
	2 sets stab down	*10400		*10400	*6500		*6500	*4300		4100				*2600		*2600	
	Dozer and stab down	*10400		*10400	*6500		5500	*4300		3300				*2600		2500	
-3.0 m	Rear dozer up	10100		5400	4800		2800										
	Rear dozer down		*10100	6500		*5300	3300										
	Rear stab down		*10100	8600		*5300	4200										
	2 sets stab down	*10100		*10100	*5300		*5300										
	Dozer and stab down	*10100		*10100	*5300		5300										

Medium Stick 2300 mm

	Undercarriage configuration	3.0 m			4.5 m			6.0 m			7.5 m						m
6.0 m	Rear dozer up				*4100		3600	3400		2100							
	Rear dozer down					*4100	4100		*3500	2400							
	Rear stab down					*4100	*4100		*3500	3000							
	2 sets stab down				*4100		*4100	*3500		*3500							
	Dozer and stab down				*4100		*4100	*3500		*3500							
4.5 m	Rear dozer up	*4200		*4200	*4700		3500	*3400		2200				*1900		1300	7.64
	Rear dozer down		*4200	*4200		*4700	4000		*3900	2500					*1900	1500	
	Rear stab down		*4200	*4200		*4700	*4700		*3900	3100					*1900	*1900	
	2 sets stab down	*4200		*4200	*4700		*4700	*3900		*3900				*1900		*1900	
	Dozer and stab down	*4200		*4200	*4700		*4700	*3900		3700				*1900		*1900	
3.0 m	Rear dozer up	*7600		6100	5200		3400	*3400		2200	2200		1300	*1900		1100	8.08
	Rear dozer down		*7600	7100		*5600	3900		*4200	2500		*3000	1500		*1900	1300	
	Rear stab down		*7600	*7600		*5600	*4600		*4200	3100		3000	1900		*1900	1700	
	2 sets stab down	*7600		*7600	*5600		*5600	*4200		*4200	*3000		2900	*1900		*1900	
	Dozer and stab down	*7600		*7600	*5600		*5600	*4200		3600	*3000		2400	*1900		*1900	
1.5 m	Rear dozer up	*8500		6000	*5100		3300	3400		2100	2200		1200	1900		1100	8.18
	Rear dozer down		*8500	6900		*6200	3800		*4500	2400		*3400	1500		*1900	1300	
	Rear stab down		*8500	*8500		*6200	4600		4500	3000		3100	1900		*1900	1600	
	2 sets stab down	*8500		*8500	*6200		*6200	*4500		4200	*3400		2900	*1900		*1900	
	Dozer and stab down	*8500		*8500	*6200		*5400	*4500		*3600	*3400		2400	*1900		*1900	
0 m	Rear dozer up	9700		5800	*5200		3200	3200		1900	2100		1200	1900		1100	7.98
	Rear dozer down		*9800	6900		*6300	3700		*4500	2300		*2900	1400		*2100	1300	
	Rear stab down		*9800	8700		*6300	4600		*4500	2800		*2900	1800		*2100	1700	
	2 sets stab down	*9800		*9800	*6300		*6300	*4500		4300	*2900		2800	*2100		*2100	
	Dozer and stab down	*9800		*9800	*6300		5500	*4500		3500	*2900		2300	*2100		*2100	
-1.5 m	Rear dozer up	*10000		5500	5100		3000	3100		1800				2200		1200	7.42
	Rear dozer down		*10300	6600		*6400	3500		*4500	2100					*2400	1500	
	Rear stab down		*10300	8600		*6400	4400		4400	2700					*2400	1900	
	2 sets stab down	*10300		*10300	*6400		*6400	*4500		4100				*2400		*2400	
	Dozer and stab down	*10300		*10300	*6400		5500	*4500		3300				*2400		2400	
-3.0 m	Rear dozer up	10200		5500	4800		2800										
	Rear dozer down		*10600	6600		*5900	3300										
	Rear stab down		*10600	8700		*5900	4200										
	2 sets stab down	*10600		*10600	*5900		*5900										
	Dozer and stab down	*10600		*10600	*5900		5300										

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 C4.4 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, 10.00-20 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, 2900 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)
Lowering control devices for boom and stick
SmartBoom

Front Linkage
Booms
  One-piece boom, 4815 mm
  VA boom (two piece), 5020 mm
  Offset boom, 5020 mm
Bucket linkage
Bucket linkage with diverter valve
Sticks
  2000, 2300, 2600 mm
  2900 mm industrial with drop nose

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, front or 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, 3300 kg
Custom paint
Mirrors heated, frame and cab
Ride Control
Tires (see pg.13)
Tool box in upperframe, lockable

M313D Wheel Excavator

HEHH3566 (02/2007) hr

CATERPILLAR®