M320F

Wheeled Excavator

2017

Engine	
Engine Model	Cat® C7.1 ACERT™
Emissions	EU Stage IV
Net Power (Maximum)	
ISO 9249 at 1,550 rpm	126 kW (169 hp)
ISO 9249 at 1,550 rpm (metric)	171 hp (PS)
ISO 14396 at 1,550 rpm (gross)	129.4 kW (174 hp)
ISO 14396 at 1,550 rpm (metric)	176 hp (PS)
Weights	
Operating Weight	18 270 kg-21 760 kg

Bucket Specifications	
Bucket Capacities	0.41 m^3-1.18 m^3
Working Ranges	
Maximum Reach at Ground Level	9580 mm
Maximum Digging Depth	6330 mm
Drive	
Maximum Travel Speed	35 km/h

M320F Features

Made to keep your costs down.
Not only does the machine give you all the versatility you need, but it does so while providing a great deal of precision and speed with an absolute minimum fuel consumption – and zero impact on your efficiency.

Made to make operation easy and pleasant.
Have a seat, you will be impressed by the quietness and comfort of the cab. Feel relaxed, we help you make sure you're safe.

Enjoy integrated technologies; they act transparently.
When you add the ground level grouped service points that make your maintenance quick and easy and multiple Cat attachments that help you do all kinds of jobs, you simply won't find a better machine.

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The new F Series generation is here to help you take on the wide variety of challenges you face every day, more easily and with more pleasure.

F Series Wheeled Excavators – Easier Than Ever.

Sustainability

Generations Ahead in Every Way

Fuel Efficiency and Reduced Exhaust Emissions

The engine meets Stage IV emission standards, is powerful and efficient, with an optimized –10% fuel consumption versus the previous model and no impact on your productivity. This means less resource consumption and fewer CO_2 emissions.

Quiet Operation

Outstandingly low sound levels, you won't believe your machine is running.

Transparent Technologies and Longer Service Intervals

- The Eco Mode, Auto Engine Speed Control and Engine Idle Shutdown help further reduce your overall fuel consumption.
- Product Link™ allows remote monitoring of the machine and helps improve overall efficiency.
- Your Cat dealer can help extend service intervals, meaning fewer fluids and disposals, all adding up to lower costs.

Biodiesel and Biodegradable Hydraulic Oil

- The M320F has the flexibility of running on either ultra-low-sulfur diesel (ULSD) fuel with 10 ppm of sulfur or less or up to B20 biodiesel fuel blended with ULSD.
- Cat BIO HYDO™ Advanced HEES™ reduces the impact on the environment.

Cat Certified Used

This program is a key element in the range of solutions offered by Caterpillar and Cat dealers to help customers achieve growth at the lowest cost while eliminating waste. Used equipment is inspected, guaranteed and ready for work and customers will benefit from a Caterpillar warranty.

Engine
Power, Reliability, and Fuel Economy

The Power and Performance You Need

Constant Power Strategy
Provides a quick response to changing loads, while delivering the same amount of power regardless of operating conditions.

A Transparent Emission Solution That Works.
The Cat C7.1 ACERT engine meets today's Stage IV emission standards, and it does so without interrupting your job process. It is designed to be:

- **Transparent:** no operator intervention
- **Durable:** fit for life Diesel Particulate Filter
- **Efficient:** no work interruption, even in case of extended idling time
- **Simple:** minimum maintenance. Longitudinal engine installation, which further simplifies maintenance.

Biodiesel Not a Problem
The engine can run on B20 biodiesel fuel that meets ASTM 6751 standards – all to give you more potential fuel-saving flexibility.

Proven Technology
To assure that our technology will meet your expectations for reliable trouble-free service, we subjected these engines and technologies to extensive operating hours of test and validation.

Built-in Fuel Savers That Add Up

- **Automatic Engine Speed Control:** lowers engine speed when it is not needed.
- **Engine Idle Shutdown:** turns the engine off when it's been idling for more than a pre-set amount of time.
- **On-Demand Cooling System:** variable speed and on-demand fan.
- **Enhanced Eco Mode:** reduces engine speed while delivering the same power.
- **Automatic Shift to Travel Mode** when you start driving.
- **NEW! Optimized Travel Mode:** travel mode rpm levels are set automatically on-demand only to further reduce fuel consumption.

Premium Comfort

Keeps Operators Productive All Shift Long

Legacy from the Renowned Cat Wheeled Excavators

Designed for the operator, our cabs are unique.

Ergonomic Layout

- Frequently used switches are centralized, kept to the minimum and ideally located close to the joysticks.
- Storage compartments are useful... when well designed. Several areas provide sufficient room to store a hard hat, a drink, phone, or keys.

Comfortable Seat Options

Our seats provide all the comfort needed for a long day of work, including FULL adjustment. All seats are heated and air suspended. Automatic weight adjustment and ventilated seats are available.

Safety Is Not Optional

ROPS cab, compatible with FOPS, seat belt alarm, safety bar, sideview camera … among others.

Details That Make the Difference

Have a look at the cab; you will see it is through details that we improve pleasure of operating.

Smart Controls to Reduce Fatigue

- Features like ride control, SmartBoom or Joystick Steering will be precious to increase your productivity.
- New technologies that work transparently like the swing and auto travel lock or the automatic brake and axle lock, reduce the number of tasks you need to do.

Plug, Charge and Play Your Devices

- The 12V 10A power supply socket is conveniently located for charging your laptop, or a tablet.
- A CD/MP3 Radio with speakers and USB port is available.

Simplicity and Functionality
For Ease of Operation

A Cab Just for You – Fully Adjustable
- Seat armrests, in height and angle
- Steering column adjustment, not only tilting fore/aft but also in height
- Hydraulic sensitivity of the machine to make it more or less aggressive
- NEW! Joystick and left pedal controls assignments: can be set up as desired and per tool
- NEW! Optional advanced joystick offering more controls (two sliders, five buttons each)
- Automatic air conditioning
- NEW! Optional heated mirrors are now also electrically adjustable from the cab

Incredibly Low Sound Levels, Less Fatigue
Increased cab pressure, preventing from dust entry, combined with the cab design contributes to reducing sound.

Outstanding Visibility: See the Difference!
- All glass areas have been drastically increased
- Standard LED working lights and halogen roading lights
- LED dome light
- Standard rearview AND sideview wide angle cameras
- Wide angle mirrors for a better visibility even down to the ground
- Parallel intermittent (four speeds) wipers covering the whole windshield

NEW! Standard LED Lights for BOTH Cameras to See What's Going on Around, Day or Night.
The rear camera is integrated into the counterweight for enhanced protection.

NEW! Split-Screen View of BOTH Cameras on the Same Monitor
The views from both cameras are displayed side by side on the additional wide color monitor for better visibility at first glance.

Large Color Machine Monitor
Easy to read and in local language, the high resolution LCD monitor will keep you aware of any important information. "Quick Access" buttons allow a quick selection of favorite functions. The tool select function lets you preset up to ten different hydraulic attachments (including the new Cat Tilt-Rotator) for quick tool changes.

The Next Generation
Easier Than Ever

Make the Move to the Next Generation

Refinements. From the whole design to the smallest details. Convenient features, new advanced and transparent technologies, not only to reduce emissions but to further improve your daily experience when working with our products.

Easier Than Ever

Work like no other with our wheeled excavators. The F Series generation is made to help you take on the wide variety of the challenges you face every day, more easily and with more pleasure, to keep you on the road to your success.

Cruise Control
Focus on the Road, Not on Your Foot

Cruise Control

No need to press the pedal all the time.

- Choose the very speed you wish
- Press the quick access button on the monitor
- Enjoy the ride

It's as Easy as That.

Smart Technologies

Swing and Auto Travel Lock: Press, Go and Relax

No need for the operator to bend to engage the swing lock pin.

- Just press a button,
- Align the upper to the lower frame,
- Enjoy the ride: a green indicator confirms the swing and the implements have been automatically locked.
- NEW! The swing lock can be applied independently from the implements lock at low speed (below 5 km/h)

It's As Easy As That.

Integrated Pin Code – Switch Off and Relax

No need to buy an optional security system to protect your equipment against theft.

- The pin code is integrated into the monitor (standard)
- Entering the right code allows the engine to start

The Machine Security System (MSS – optional) adds even more protection when needed.

It's As Easy As That.

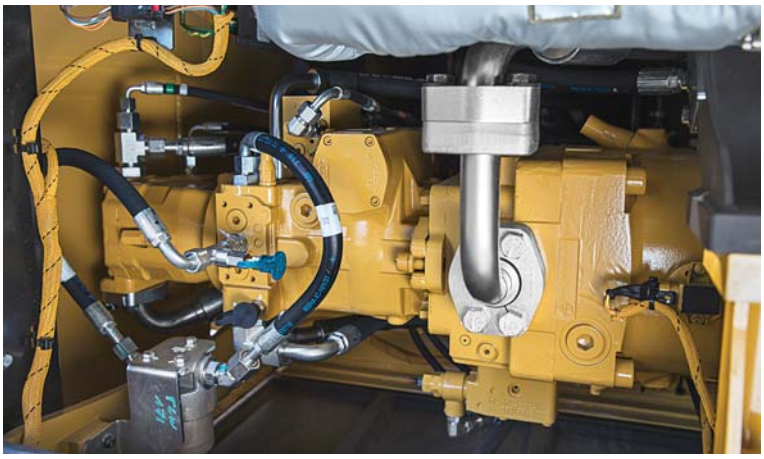
Dig and Go Auto Axle Lock

Presses the pedal for you, reducing the number of actions you need to do

The machine automatically detects when the service brake and axle need to be locked (like when digging), or unlocked (roading), hence removing the need for the operator to systematically press the pedal.

Brake and axle are released automatically by pressing the travel pedal again.

Hydraulics
Fast, Precise, Flexible



When it comes to moving material quickly, you need efficient hydraulics – the type the F Series can deliver.

Efficient Design, Smart and Fast

- **Simple Design:** The new hydraulic valve compartment and routings offer a simple and clean design to help ensure durability.
- **Smart Main Hydraulics:** The system allows reducing the load on the engine when not needed, which translates into lower fuel consumption.
- **Dedicated Swing Pump:** A closed hydraulic circuit is dedicated to the swing only. Having two separate pumps, one for the swing and the second for the other functions allows faster and smoother combined movements.

Control Like No Other

- **Electronic Pump Control** – Controllability is one of the main attributes of Cat excavators, and one of the key contributors to this is the Electronic Pump Control (EPC) that's designed to improve response time and precision. It puts flow exactly where you need it, when you need it, which means a much smoother operation and greater efficiency.
- **Adjustable Hydraulic Sensitivity** – Allows you to adjust the aggressiveness of the machine according to the application.
- **Stick Regeneration Circuit** – Increases efficiency and helps enhance controllability for higher productivity.

Proportional Auxiliary Hydraulics, Tremendous Versatility

Medium, high pressure and hydraulic quick coupler lines and circuits: they all come standard.

Undercarriage

Strength and Versatility at 35 km/h

Heavy Duty Axles

Long life with effective heavy duty axles. The transmission is mounted directly on the rear axle for protection and optimum ground clearance. The front axle offers wide oscillating and steering angles. The drive shaft offers longer service intervals (1,000 hours).

Advanced Disc Brake System

Minimizes the rocking effect when working free on wheels. The disc brake system acts directly on the hub instead of the drive shaft to avoid planetary gear backlash.

Fenders (optional)

Fenders provide excellent coverage of all tires, protecting the machine and surroundings from mud and stones being thrown up.

Joystick Steering

Keep both hands on the joysticks even when simultaneously moving the implements and repositioning the machine, by the use of the slider switch on the right joystick.

Blade Design

- Optimized design to provide rigidity, stability and ease of maintenance.
- Parallel kinematic to keep the blade parallel to the ground, in every height position.
- A profile that allows material to roll better and minimizes material packing.

Booms and Sticks

Options To Take on Your Far-reaching or Up-close Tasks

Rugged Performance

Booms and sticks are welded, box section structures with thick, multi-plate fabrications in high stress areas for the tough work you do.

Flexibility

The choice of various booms and sticks provides the right balance of reach and digging forces for all applications.

Sticks

- **Medium stick – 2500 mm** for greater crowd force and lift capacity
- **Long stick – 2800 mm** for greater depth and reach
- **Industrial stick – 3300 mm** for use with grapples in material handling and industrial applications

Booms

- **Variable Adjustable (VA)** – improved right side visibility and roading balance. When working in tight quarters or lifting heavy loads, the VA boom offers the best flexibility.
- **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.

SmartBoom
Reduces Stress and Vibration

Rock Scraping
Scraping rock and finishing work is easy and fast. SmartBoom simplifies the task and allows more focus on stick and bucket, while the 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.

Ride Control
Fast Travel Speed with More Comfort

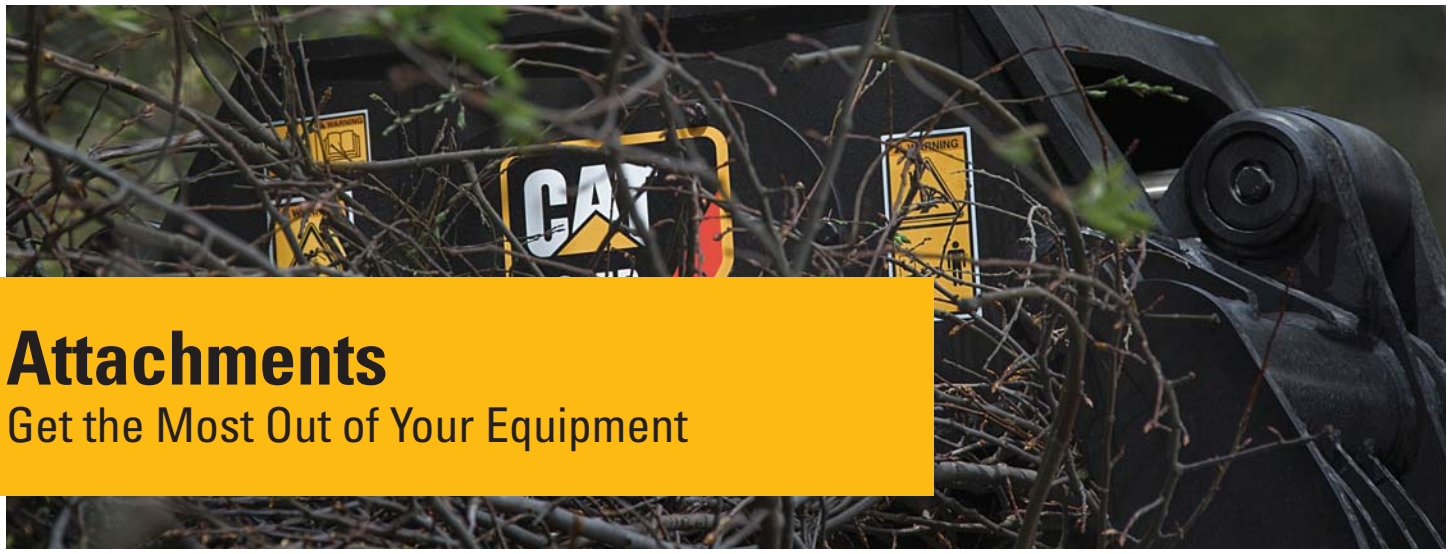
The ride control system lets you travel faster over rough terrain with improved ride quality for the operator. Accumulators are acting as shock absorbers to dampen the front part motion. It can be activated through a button located on the soft switch panel in the cab.

NEW! Cat Tilt-Rotator and Tilt-Rotator-Ready Option – If you need extreme versatility, you need a Cat Tilt-Rotator.

Tilt-Rotators eliminate the need to constantly reposition the machine, by providing a 40° tilt and 360° rotary connection between its integrated quick coupler and any Cat attachment.

The wheeled excavator Tilt-Rotator-Ready Package includes all that you need, with lines, circuits, software and advanced joysticks. This is a perfectly integrated interface between the machine and this tool.

NEW! Cat Tilt-Rotator parameters can be set directly from the machine monitor.



Attachments

Get the Most Out of Your Equipment

Save Time with Every Tool Change

Perform hydraulic tool changes in seconds … The new Auto-Connect hydraulic coupler automates tool exchange fully, so operators can change attachments quickly, from the safety and comfort of their cabs. The unique design of the Auto-Connect prevents ruptured hoses, avoiding unplanned downtime. It makes your operators more efficient and productive.

Power Match

Match your Cat hydraulic attachments to your Cat machine, and get the most out of the standard, built-in software. Attachment changes have never been easier!

Get the Most from Your Machine

If you have multiple tasks to get done, the M320F can help. And you can easily expand all the possibilities it offers by utilizing any of the variety of Cat attachments.

Change Jobs Quickly

A quick coupler brings the ability to quickly change attachments and increase your flexibility. The quick coupler circuit and lines are compatible with both Cat dedicated and Pin Grabber Couplers and do not require any change or addition to the machine.

Dig, Load and Landscape

A wide range of buckets offers solutions for digging, excavating, trenching, loading and finishing. Ditch Cleaning buckets are suitable for grading and finishing in landscaping applications or for loading loose material that is stockpiled, where teeth would damage the surface.

Sort and Handle Material

With increasing environmental regulations, you need efficient ways to deal with waste. Save on transportation, manpower and dumping costs with Cat grapples by sorting debris at source and trucking it separately. When you need good penetration, you can count on Cat digging grabs.

Build, Compact and Maintain Roads

Whether you do finish grading with leveling buckets, ditch cleaning, sewer and water, or compaction, the machine in combination with the appropriate attachment will do the job quickly.

Break and Scrap

When a structure needs to be demolished, it has to be done quickly. The Cat MP300 Multi-Processors let you do exactly that. Cat E Series hammers deliver very high blow rates, and shears provide effective scrap processing. They also have the ability to rotate 360°.

Serviceability
When Uptime Counts

Convenient Access Built In
You can reach routine maintenance items like fuel and engine oil filters and fluid taps at ground level while fuel and DEF tanks with engine air filter are accessible from the safety of the slip-resistant new service platform. Compartments feature wide composite service doors, designed to be more resistant to shocks, which all include gas struts to facilitate the opening. Components are now gathered in specific dedicated compartments, like the special electrical and cooling compartments.

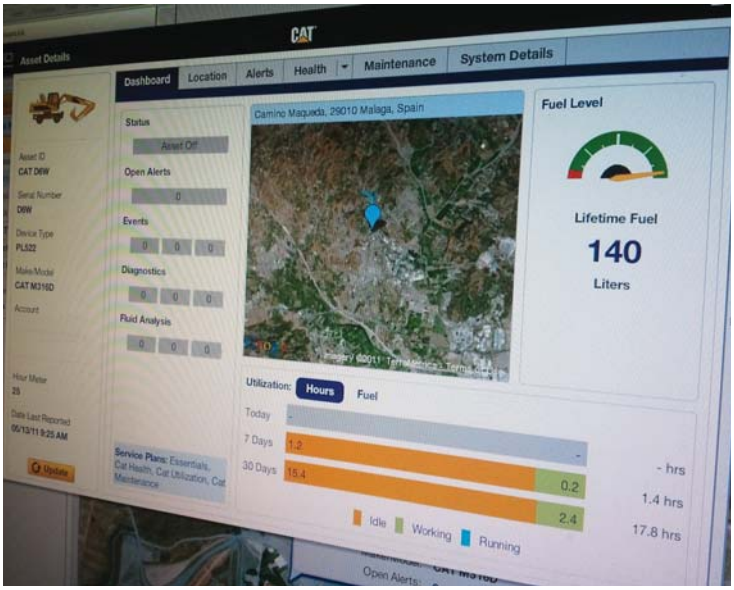
A Smart Design for Any Temperature
The side-by-side coolers and axial fan design allows greater cooling performance. The system is completely separated from the engine compartment to reduce noise and heat and all radiators are gathered in the same compartment while featuring easy-to-clean cores with a tilting device that requires no tool to unlock.

A Fresh Idea
Ventilation inside the cab allows outside air to enter through a fresh air filter. The filter is located on the side of the cab to make it easy to reach, and it is protected by a lockable door that can be opened with the ignition key.

Lube and Fuel Standard Features
An electric lubrication system is a time-saving standard feature for greasing the whole upper carriage. Greasing points for the undercarriage are kept to a minimum and grouped. The new drive shaft extends greasing intervals from 500 hours to 1,000 hours and allows simultaneous greasing with the lower axle bearing. An electric refueling pump is also standard. The hose is stored in a dedicated tray, for more cleanliness. Add in the new electric lift pump removing the need to prime the system manually, the standard fuel and water separator and you get a machine that does the fastidious maintenance works for you.

Keep it simple.

Integrated Technologies
It Pays to Know



CAT® CONNECT

EQUIPMENT MANAGEMENT | PRODUCTIVITY | SAFETY | SUSTAINABILITY

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

Cat Connect technologies offer improvements in these key areas:

EQUIPMENT MANAGEMENT

Equipment Management – increase uptime and reduce operating costs.

PRODUCTIVITY

Productivity – monitor production and manage job site efficiency.

SAFETY

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

Featured Cat Connect technologies include the following:

Link

Link technologies provide wireless capability to machines to enable two-way transfer of information collected by on-board sensors, control modules, and other Cat Connect technologies.

Manage Your Machine Remotely

Cat Product Link is a system that is deeply integrated into the machine monitoring system to take the guesswork out of managing your equipment. The system tracks location, hours, fuel usage, productivity, idle time, and diagnostic codes and shares it with you through VisionLink® to help you maximize efficiency, improve productivity, and lower operating costs.

Safety
Your Safety Is NOT Optional

Cab Ingress

We bring a solution to allow you to safely climb into the cab:

- Three longer access steps, aligned with the cab entry
- Anti-skid plates on all walkways and steps reducing slipping hazards
- Convenient door handrail
- Tiltable console to make sure the way in and out is free of obstacle

Safe and Quiet Cab

The cab provides you with a safe environment. It also contributes to your comfort with limited vibrations and low sound levels.

Embedded Features

Smart embedded devices help enforce safe behavior:

1) *Laminated windshield and skylight window. One-piece 10 mm windshield and skylight, fulfilling EN356 P5A standards.*
2) *Lowering check valves*
3) *Safety seat belt indicator*
4) *Safety lever*
5) *Emergency shut-off switch*
6) *Automatic brake and axle lock*
7) *Punched, anti-slippery walking surfaces*
8) *Battery disconnect switch*
9) *Swing and implement electronic lock*
10) *Adjustable travel alarm*
11) *All doors equipped with gas struts cylinders*
12) *Emergency hammer and exit*
13) *ROPS compliant and front/top guards compatible cab*
14) *Sound proofing*
15) *Beacon available*

NEW! Quick coupler control switch, ISO 13031 compliant

Smart Lighting

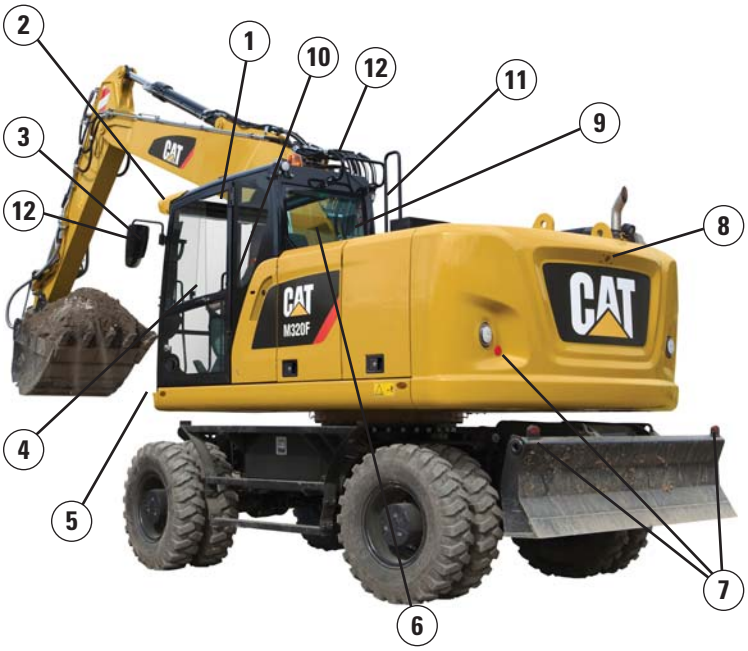
- LED lights for all working lights for enhanced night-time visibility
- Halogen lights for front roading lights
- LED dome light for better illumination inside the cab
- NEW! Dedicated LED lights for both rear and side cameras

Great Views

- Enlarged glass gives you excellent visibility to the front, top, rear, and sides, even to the right
- Standard rearview camera gives you a clear field of view behind the machine
- Standard sideview camera, to check nothing is hidden to you from the front right hand side to the rear of the machine
- NEW! Monitor split-screen to easily check cameras rearview and sideview on the same display
- Lenses of all the cameras are wide angle and heated
- All mirrors are wide angle and allow view not only around the machine but also to the ground

Unmatched Visibility

Make Sure Nothing Is Hidden to You



Visibility all around is critical, especially for machines which go on public roads.

1) Increased skylight and windshield glass areas
2) Improved lighting with standard LED lights for all working lights
3) Optional electrically adjustable and heated mirrors
4) Great left hand side visibility with all glass door
5) Halogen roading lights
6) Wide rear window
7) Red reflectors, on counterweight and rear blade/outriggers
8) Standard wide rearview camera with LED light
9) Standard wide sideview camera with LED light
10) Split-screen display of both cameras on the same monitor
11) Large right hand side window
12) Mirrors, wide angle, with additional lower mirror for ground visibility

Complete Customer Care

Your Cat Dealer Will Support You Like No Other

Support You Can Count On

From helping you to choose the right machine to knowledgeable on-going support, Cat dealers provide the best-in-sales and services.

- **Best long-term investment** with financing options and services
- **Productive operation** with training programs
- **Preventive maintenance** and guaranteed maintenance contracts
- **Uptime**, with best-in-class parts availability
- **Repair, rebuild, or replace?** Your dealer can help evaluate the best option.

Engine

Engine Model	Cat C7.1 ACERT[1]
Ratings	1,550 rpm
Engine Gross Power (maximum)	
ISO 14396	129.4 kW (174 hp)
ISO 14396 (metric)	176 hp (PS)
Net Power (Rated)[2]	
ISO 9249/SAE J1349	126 kW (169 hp)
ISO 9249/SAE J1349 (metric)	171 hp (PS)
80/1269/EEC	126 kW (169 hp)
Net Power (maximum)	
ISO 9249/SAE J1349	126 kW (169 hp)
ISO 9249/SAE J1349 (metric)	171 hp (PS)
80/1269/EEC	126 kW (169 hp)
Bore	105 mm
Stroke	135 mm
Displacement	7.01 L
Maximum Torque at 1,400 rpm	830 N·m
Number of Cylinders	6

[1] Meets Stage IV emission standards.
[2] Rated speed 1,550 rpm. Constant power from 1,500-1,550 rpm.
- Net power advertised is the power available at the flywheel when engine is equipped with air cleaner, CEM exhaust gas aftertreatment, alternator, and cooling fan running at intermediate speed.
- No deratings required up to 3000 m altitude. Automatic derating occurs after 3000 m.

Transmission

Forward/Reverse	
1st Gear	10 km/h
2nd Gear	35 km/h
Creeper Speed	
1st Gear	3 km/h
2nd Gear	12 km/h
Drawbar Pull	104 kN
Maximum Gradeability (at 18 500 kg)	65%

Swing Mechanism

Maximum Swing Speed	9 rpm
Maximum Swing Torque	48 kN·m

Undercarriage

Ground Clearance	360 mm
Maximum Steering Angle	35°
Oscillation Axle Angle	±8.5°
Minimum Turning Radius	
Standard Axle	
Outside of Tire	6400 mm
End of VA Boom	7000 mm
End of One-Piece Boom	8300 mm
Wide Axle	
Outside of Tire	6500 mm
End of VA Boom	7300 mm
End of One-Piece Boom	8500 mm

Service Refill Capacities

Fuel Tank (total capacity)	415 L
Diesel Exhaust Fluid Tank	34.5 L
Cooling System	46.9 L
Engine Crankcase	18.5 L
Rear Axle Housing (differential)	14 L
Front Steering Axle (differential)	10.5 L
Final Drive	2.5 L
Powershift Transmission	2.5 L

Weights

Operating Weights*	18 520 kg-20 020 kg
Weights	
VA Boom	
Rear Dozer Only	19 020 kg
Rear Dozer, Front Outriggers	20 020 kg
Front and Rear Outriggers	20 220 kg
One-Piece Boom	
Rear Dozer, Front Outriggers	19 520 kg
Front and Rear Outriggers	19 720 kg
Sticks**	
Medium, 2500 mm	870 kg
Long, 2800 mm	910 kg
Industrial-Drop Nose, 3300 mm	515 kg
Counterweights	
Standard	3700 kg
Optional	4200 kg

*Operating weight includes medium stick, 3700 kg counterweight, full fuel tank, operator, quick coupler (250 kg), bucket (695 kg) and dual pneumatic tires. Weight varies depending on configuration.
**Includes cylinder, bucket linkage, pins and standard hydraulic lines.

M320F Wheeled Excavator Specifications

Hydraulic System

Tank Capacity	153 L
System	315 L
Maximum Pressure	
Implement Circuit	
Normal	350 bar
Heavy Lift	370 bar
Travel Circuit	350 bar
Auxiliary Circuit	
High Pressure	350 bar
Medium Pressure	185 bar
Swing Mechanism	310 bar
Maximum Flow	
Implement/Travel Circuit	290 L/min
Auxiliary Circuit	
High Pressure	250 L/min
Medium Pressure	49 L/min
Swing Mechanism	108 L/min

Tires

Standard	10.00-20 (Dual Pneumatic)
Optional	11.00-20 (Dual Pneumatic) 445/70/R19.5 TL XF (Single Pneumatic) 10.00-20 (Dual Solid Rubber) 315/70R22.5 (Dual Pneumatic – No spacer ring between tires)

Dozer Blade

Blade Type	Parallel
Width (standard axles)	2550 mm
Width (wide axles)	2750 mm
Blade Roll-Over Height	576 mm
Blade Total Height	680 mm
Maximum Lowering Depth From Ground	130 mm
Maximum Raising Height Above Ground	495 mm

Emissions and Safety

Engine Emissions	Stage IV
Diesel Exhaust Fluid	Must meet ISO 22241
Fluids (Optional)	
Cat Bio HYDO Advanced	Readily biodegradable EU Flower eco-label certified
Biodiesel up to B20	Meets EN14214 or ASTM D6751 with EN590 or ASTM D975 Standard Mineral diesel fuels
Vibration Levels	
Maximum Hand/Arm	
ISO 5349:2001	<2.5 m/s^2
Maximum Whole Body	
ISO/TR 25398:2006	<0.5 m/s^2
Seat Transmissibility Factor	
ISO 7096:2000-spectral class EM5	<0.7 m/s^2

Standards

ROPS	ROPS (Rollover Protective Structure) offered by Caterpillar meets ROPS criteria ISO 12117-2:2008
Operator Protective Structure: top/front guards	FOPS (Falling Object Protective Structure) meets FOPS criteria ISO 10262:1998 and SAE J1356:2008
Cab/Sound Levels	Meets appropriate standards as listed below

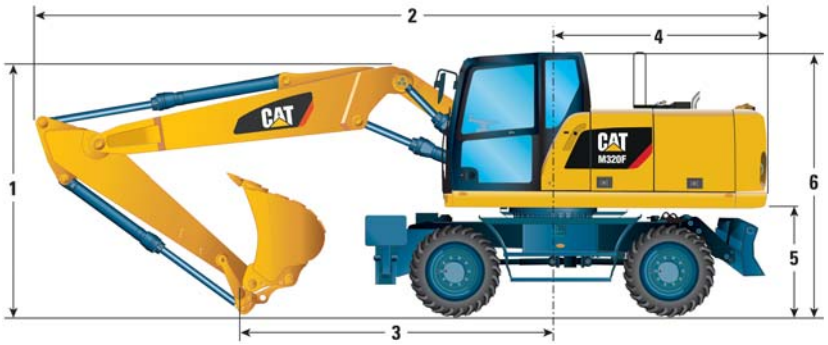
Sound Performance

Operator Sound	
2000/14/EC	71 dB(A)
Spectator Sound	
2000/14/EC	99 dB(A)

- Operator Sound – The operator sound level is measured according to the procedures specified in 2000/14/EC, for a cab offered by Caterpillar, when properly installed and maintained and tested with the door and windows closed.
- Exterior Sound – The labeled spectator sound power level is measured according to the test procedures and conditions specified in 2000/14/EC.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained for doors/windows open) for extended periods or in noisy environment(s).

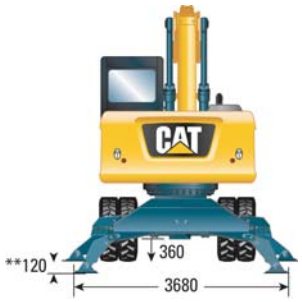
Dimensions

All dimensions are approximate. Values are with 10.00-20 pneumatic tires.

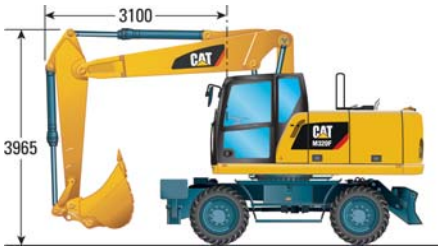


		Variable Adjustable Boom			One-Piece Boom		
Stick Length	mm	**2500**	**2800**	**3300**	**2500**	**2800**	**3300**
1 Shipping Height with Falling Object Guard and Handrails Lowered (highest point between boom and cab)	mm		3330			3320	3320
2 Shipping Length	mm	9025	9025	8920	8915	8890	9065
3 Support Point	mm	3495	3315	3270	3640	3500	3070
4 Tail Swing Radius	mm			2570			
5 Counterweight Clearance	mm			1280			
6 Cab Height – No Falling Object Guard, Handrails Lowered	mm			3190			
No Falling Object Guard, Handrails not Lowered	mm			3260			
With Falling Object Guard	mm			3320			
7 Overall Machine Width				Standard/Wide Axles			
Width with Outriggers on Ground	mm			3680/3680			
Width with Outriggers Up	mm			2550/2550			
Width with Blade	mm			2550/2750			
8 Maximum Outriggers Depth	mm			120			

** Maximum tire clearance with outrigger fully down



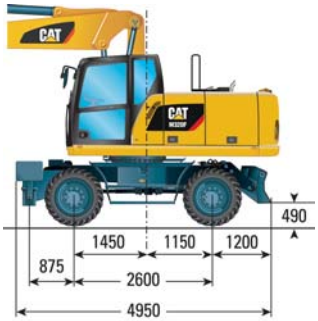
Roading position with 2500 mm stick



Undercarriage with dozer only

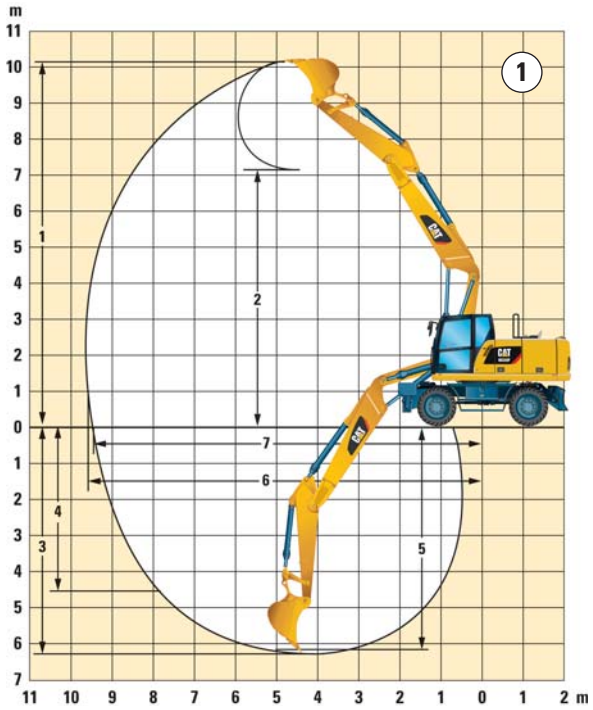
Undercarriage with 2 sets of outriggers

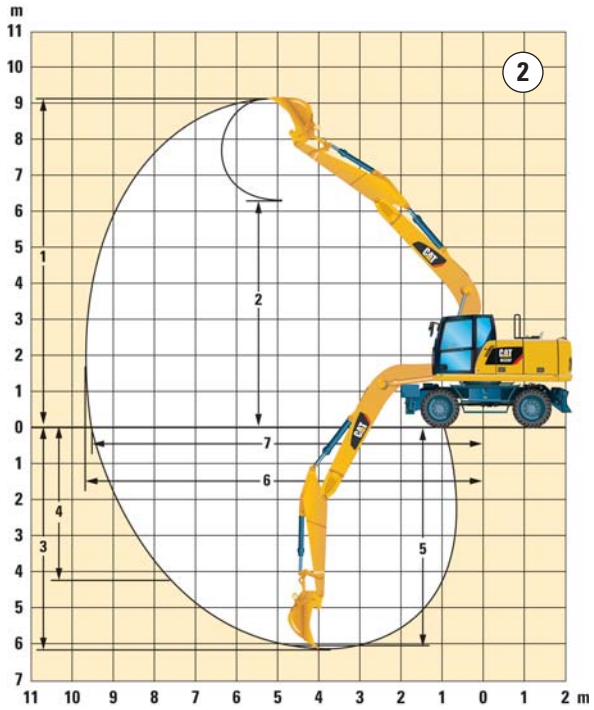
Undercarriage with 1 set of outriggers and dozer



M320F Wheeled Excavator Specifications

Working Ranges





		1			2		
		Variable Adjustable Boom			One-Piece Boom		
Stick Length	mm	**2500**	**2800**	**3300**	**2500**	**2800**	**3300**
1 Digging Height	mm	9950	10 165	8970	8940	9095	7720
2 Dump Height	mm	6970	7180	—	6140	6290	—
3 Digging Depth	mm	6035	6330	5030	5980	6280	4820
4 Vertical Wall Digging Depth	mm	4260	4510	—	3935	4225	—
5 Depth 2.5 m in Straight Clean-Up	mm	5930	6235	—	5755	6070	—
6 Reach	mm	9450	9735	8370	9470	9750	8130
7 Reach at Ground Level	mm	9270	9565	8170	9295	9580	7920
Bucket Forces (ISO 6015)	kN	137		—	137		—
Stick Forces (ISO 6015)	kN	93	86	—	93	86	—

*Industrial stick has no bucket linkage. Working range dimensions refer to stick nose pin, with pneumatic tires.

Range values are calculated with GD Bucket, 1200 mm, 0.98 m^3 with tips K080 and CW-30-H.4.N. quick coupler with a tip radius of 1535 mm.

Breakout force values are calculated with heavy lift on (no quick coupler) and a tip radius of 1298 mm.

Bucket Specifications and Compatibility

Contact your Cat dealer for special bucket requirements.

				Variable Adjustable Boom								One-Piece Boom							
Counterweight				3.7 mt								3.7 mt							
Stick Length				2500 mm				2800 mm				2500 mm				2800 mm			
	Width	Capacity	Weight	Free on wheels	Dozer lowered	1 set of stabilizers lowered	Fully stabilized	Free on wheels	Dozer lowered	1 set of stabilizers lowered	Fully stabilized	Free on wheels	Dozer lowered	1 set of stabilizers lowered	Fully stabilized	Free on wheels	Dozer lowered	1 set of stabilizers lowered	Fully stabilized
	mm	m^3	kg																
Without Quick Coupler																			
General Duty (GD)	600	0.41	474																
	750	0.56	522																
	900	0.70	583																
	1050	0.83	632																
	1200	1.00	695																
	1300	1.09	724																
	1400	1.18	756																
Heavy Duty (HD)	900	0.70	626																
	1100	0.83	669																
	1200	1.00	733																
	1300	1.09	763																
Ditch Cleaning (DC)	2000	0.70	650																
Ditch Cleaning Tilt (DCT)	1800	0.48	819																
	2000	0.58	865																
	2300	0.62	912																
With Quick Coupler (CW-30/CW-30s)																			
General Duty (GD)	600	0.35	416																
	750	0.49	462																
	900	0.62	524																
	1100	0.79	583																
	1200	0.91	633																
	1300	1.00	663																
	1400	1.09	693																
Heavy Duty (HD)	1200	0.91	649																
	1300	1.00	681																
	1400	1.09	712																

The above loads are in compliance with hydraulic excavator standard EN474, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity with front linkage fully extended at ground line with bucket curled.

Capacity based on ISO 7451.

Bucket weight with General Duty tips.

- Maximum material density 2100 kg/m^3
- Maximum material density 1800 kg/m^3
- Maximum material density 1500 kg/m^3
- Maximum material density 1200 kg/m^3
- Maximum material density 900 kg/m^3
- Not recommended

Caterpillar recommends using appropriate work tools to maximize the value customers receive from our products. Use of work tools, including buckets, which are outside of Caterpillar's recommendations or specifications for weight, dimensions, flows, pressures, etc. may result in less-than-optimal performance, including but not limited to reductions in production, stability, reliability, and component durability. Improper use of a work tool resulting in sweeping, prying, twisting and/or catching of heavy loads will reduce the life of the boom and stick.

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.

		Variable Adjustable Boom																	
Counterweight		3.7 mt									4.2 mt								
		(1)			(2)			(3)			(1)			(2)			(3)		
Stick Length (mm)		2500	2800	3300	2500	2800	3300	2500	2800	3300	2500	2800	3300	2500	2800	3300	2500	2800	3300
Hydraulic Hammer	H115Es																		
	H120Es																		
	H130Es																		
Multi-Processor	MP318 CC, D & U Jaw																		
	MP318 S Jaw																		
Crusher	P315																		
Pulverizer	P215																		
Demolition and Sorting Grapple (D-Demolition shells, R-Recycling shells)	G315 GC																		
	G315 GC fixed CAN																		
	G315B-D/R																		
	G315B-D/R fixed CAN																		
Scrap and Demolition Shear	S325B																		
Compactor Plate	CVP75																		
Orange Peel Grapple (4 or 5 Tines)	GSH15B 400L, 500L	These attachments are available for the M320F. Consult your Cat dealer for proper match.																	
	GSH15B 600L, 800L																		
Clamshell Grapple	CTV15 1000L, 1200L																		
	CTV15 1500L, 1700L																		
Pin Grabber Coupler	Cat-PG	Quick couplers not compatible with the drop nose stick.																	
Dedicated Quick Coupler	CW30-CW30s																		
	CWAC-40 (AutoConnect)																		
Cat Tilt-Rotator System	TRS18	Tilt-Rotator compatible with buckets, compactors, hammers, and more...																	

(1) Dozer lowered
(2) 2 sets outriggers lowered
(3) Dozer and outrigger lowered

Work Tool is a match
Pin-on or dedicated coupler
Pin-on only
Over the front only

Boom Mount
Over the front only with dedicated coupler
Over the front only with Pin Grabber coupler

Offerings not available in all areas. Matches are dependent on Wheeled Excavator configurations. Consult your Cat dealer to determine what is offered in your area and for proper work tool match.

Note: Demolition and Sorting Grapple: fixed CAN – fixed hinge plates for CW quick coupler usage.

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.

		One-Piece Boom																	
Counterweight		**3.7 mt**									**4.2 mt**								
		(1)			(2)			(3)			(1)			(2)			(3)		
Stick Length (mm)		2500	2800	3300	2500	2800	3300	2500	2800	3300	2500	2800	3300	2500	2800	3300	2500	2800	3300
Hydraulic Hammer	H115Es																		
	H120Es																		
	H130Es																		
Multi-Processor	MP318 CC Jaw																		
	MP318 D Jaw																		
	MP318 P Jaw																		
	MP318 U Jaw																		
	MP318 S Jaw																		
Crusher	P315																		
Pulverizer	P215																		
Demolition and Sorting Grapple (D-Demolition shells, R-Recycling shells)	G315 GC																		
	G315 GC fixed CAN																		
	G315B-D/R																		
	G315B-D/R fixed CAN																		
Scrap and Demolition Shear	S320B																		
	S325B																		
Compactor Plate	CVP75																		
Pin Grabber Coupler	Cat-PG	Quick couplers not compatible with the drop nose stick.																	
Dedicated Quick Coupler	CW30-CW30s																		
	CWAC-40 (AutoConnect)																		
Cat Tilt-Rotator System	TRS18	Tilt-Rotator compatible with buckets, compactors, hammers, and more...																	

(1) Dozer lowered
(2) 2 sets outriggers lowered
(3) Dozer and outrigger lowered

Work Tool is a match
Pin-on or dedicated coupler
Pin-on only
Over the front only

Boom Mount
Over the front only with dedicated coupler
Over the front only with Pin Grabber coupler

Offerings not available in all areas. Matches are dependent on Wheeled Excavator configurations. Consult your Cat dealer to determine what is offered in your area and for proper work tool match.

Note: Demolition and Sorting Grapple: fixed CAN – fixed hinge plates for CW quick coupler usage.

M320F Wheeled Excavator Specifications

Lift Capacities – Variable Adjustable Boom

All values are in kg, bucket cylinder and bucket linkage installed, work tool: none, with counterweight (3700 kg), heavy lift on.

Load at maximum reach (stick nose/bucket pin) | Load over front | Load over rear | Load over side | Load point height

Medium Stick
2500 mm

	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm						mm
6000 mm	Rear dozer up				*6200	5900	5100	5100	3600	3150				*3300	3000	2600	
	Rear dozer down					*6200	5850		*5500	3600					*3300	3000	
	Dozer and stabilizer down					*6200	*6200		*5500	5350					*3300	*3300	6630
	2 sets of stabilizers down				*6200	*6200	*6200	*5500	*5500	*5500				*3300	*3300	*3300	
	Wide rear dozer up					5900	5600		3650	3450					3000	2900	
4500 mm	Rear dozer up				*7200	5600	4850	5000	3550	3050				*3150	2450	2100	
	Rear dozer down					*7200	5550		*6100	3500					*3150	2450	
	Dozer and stabilizer down					*7200	*7200		*6100	5250					*3150	*3150	7410
	2 sets of stabilizers down				*7200	*7200	*7200	*6100	*6100	6050				*3150	*3150	*3150	
	Wide rear dozer up					5600	5300		3550	3400					2450	2350	
3000 mm	Rear dozer up				7450	5100	4400	4800	3350	2900	3400	2350	2000	3150	2150	1850	
	Rear dozer down					*8700	5100		*6650	3350		5100	2350		*3150	2150	
	Dozer and stabilizer down					*8700	7850		*6650	5050		5150	3550		*3150	*3150	7820
	2 sets of stabilizers down				*8700	*8700	*8700	*6650	*6650	5850	*5250	*5250	4100	*3150	*3150	*3150	
	Wide rear dozer up					5150	4850		3350	3200		2350	2250		2200	2100	
1500 mm	Rear dozer up				7000	4700	4000	4600	3150	2700	3300	2250	1950	3050	2050	1800	
	Rear dozer down					*9900	4650		7150	3150		5000	2250		*3350	2050	
	Dozer and stabilizer down					*9900	7400		7200	4800		5050	3450		*3350	3200	7910
	2 sets of stabilizers down				*9900	*9900	8750	*7200	*7200	5600	*5750	5200	4000	*3350	*3350	*3350	
	Wide rear dozer up					4700	4450		3150	3000		2250	2150		2050	2000	
0 mm	Rear dozer up				6750	4450	3750	4450	3000	2550	3250	2200	1850	3100	2100	1800	
	Rear dozer down					*10 100	4450		7000	3000		4950	2200		*3700	2100	
	Dozer and stabilizer down					*10 100	7100		7000	4650		5000	3400		*3700	3250	7700
	2 sets of stabilizers down				*10 100	*10 100	8500	*7350	7200	5450	*5600	5100	3950	*3700	*3700	*3700	
	Wide rear dozer up					4450	4200		3000	2850		2200	2100		2100	2000	
–1500 mm	Rear dozer up	*9450	8350	6800	6700	4400	3700	4350	2950	2500				3450	2300	2000	
	Rear dozer down		*9450	8200		*9350	4350		*6900	2950					*4400	2350	
	Dozer and stabilizer down		*9450	*9450		*9350	7050		*6900	4600					*4400	3600	7160
	2 sets of stabilizers down	*9450	*9450	*9450	*9350	*9350	8400	*6900	*6900	5400				*4400	*4400	4200	
	Wide rear dozer up		8350	7700		4400	4150		2950	2800					2350	2200	
–3000 mm	Rear dozer up				6750	4450	3800	4450	3000	2600				4250	2900	2500	
	Rear dozer down					*7600	4450		*5250	3000					*4800	2900	
	Dozer and stabilizer down					*7600	7150		*5250	4700					*4800	4500	6210
	2 sets of stabilizers down				*7600	*7600	*7600	*5250	*5250	*5250				*4800	*4800	*4800	
	Wide rear dozer up					4500	4250		3000	2850					2900	2750	

*Limited by hydraulic rather than tipping load.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The load point is the center line of the bucket pivot mounting pin on the stick. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface and the Variable Boom Cylinder adjusted to the maximum length. For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Lift Capacities – Variable Adjustable Boom

All values are in kg, bucket cylinder and bucket linkage installed, work tool: none, with counterweight (3700 kg), heavy lift on.

Load at maximum reach (stick nose/bucket pin) | Load over front | Load over rear | Load over side | Load point height

Long Stick 2800 mm

	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm						mm
6000 mm	Rear dozer up							5150	3650	3200				*2850	2750	2400	
	Rear dozer down								*5150	3650					*2850	2750	
	Dozer and stabilizer down								*5150	*5150					*2850	*2850	6980
	2 sets of stabilizers down							*5150	*5150	*5150				*2850	*2850	*2850	
	Wide rear dozer up								3700	3500					2800	2650	
4500 mm	Rear dozer up				*6550	5650	4900	5050	3550	3100	3450	2400	2100	*2750	2300	1950	
	Rear dozer down					*6550	5650		*5850	3550		*3850	2400		*2750	2300	
	Dozer and stabilizer down					*6550	*6550		*5850	5300		*3850	3650		*2750	*2750	7720
	2 sets of stabilizers down				*6550	*6550	*6550	*5850	*5850	*5850	*3850	*3850	*3850	*2750	*2750	*2750	
	Wide rear dozer up					5700	5400		3550	3400		2400	2300		2300	2200	
3000 mm	Rear dozer up				7550	5200	4450	4800	3350	2900	3400	2350	2050	*2750	2050	1750	
	Rear dozer down					*8350	5150		*6450	3350		5150	2350		*2750	2050	
	Dozer and stabilizer down					*8350	7950		*6450	5050		5200	3550		*2750	*2750	8100
	2 sets of stabilizers down				*8350	*8350	*8350	*6450	*6450	5850	*5450	5300	4100	*2750	*2750	*2750	
	Wide rear dozer up					5200	4950		3350	3200		2350	2250		2050	1950	
1500 mm	Rear dozer up				7050	4750	4000	4600	3150	2700	3300	2250	1950	2850	1950	1650	
	Rear dozer down					*9700	4700		*7100	3150		5000	2250		*2900	1950	
	Dozer and stabilizer down					*9700	7450		*7100	4850		5050	3450		*2900	*2900	8190
	2 sets of stabilizers down				*9700	*9700	8800	*7100	*7100	5650	*5700	5200	4000	*2900	*2900	*2900	
	Wide rear dozer up					4750	4500		3150	3000		2250	2150		1950	1850	
0 mm	Rear dozer up				6750	4450	3750	4400	3000	2550	3200	2150	1850	2950	2000	1700	
	Rear dozer down					*10 100	4450		7000	3000		4900	2150		*3200	2000	
	Dozer and stabilizer down					*10 100	7150		7000	4650		5000	3350		*3200	3100	7990
	2 sets of stabilizers down				*10 100	*10 100	8500	*7350	7200	5450	*5650	5100	3950	*3200	*3200	*3200	
	Wide rear dozer up					4450	4200		3000	2850		2200	2050		2000	1900	
–1500 mm	Rear dozer up	*9000	8250	6700	6650	4350	3700	4350	2900	2500				3200	2150	1850	
	Rear dozer down		*9000	8100		*9600	4350		6900	2900					*3750	2150	
	Dozer and stabilizer down		*9000	*9000		*9600	7050		6950	4600					*3750	3350	7480
	2 sets of stabilizers down	*9000	*9000	*9000	*9600	*9600	8400	*7000	*7000	5350				*3750	*3750	*3750	
	Wide rear dozer up		8300	7650		4400	4150		2900	2750					2150	2050	
–3000 mm	Rear dozer up	*11 000	8400	6850	6700	4400	3750	4400	2950	2500				3900	2650	2250	
	Rear dozer down		*11 000	8300		*8050	4400		*5750	2950					*4700	2650	
	Dozer and stabilizer down		*11 000	*11 000		*8050	7100		*5750	4600					*4700	4100	6580
	2 sets of stabilizers down	*11 000	*11 000	*11 000	*8050	*8050	*8050	*5750	*5750	5400				*4700	*4700	*4700	
	Wide rear dozer up		8450	7800		4450	4200		2950	2800					2650	2500	

*Limited by hydraulic rather than tipping load.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The load point is the center line of the bucket pivot mounting pin on the stick. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface and the Variable Boom Cylinder adjusted to the maximum length. For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M320F Wheeled Excavator Specifications

Lift Capacities – Variable Adjustable Boom

All values are in kg, bucket cylinder and bucket linkage installed, work tool: none, with counterweight (4200 kg), heavy lift on.

Load at maximum reach (stick nose/bucket pin) | Load over front | Load over rear | Load over side | Load point height

Long Stick 2800 mm

	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm						mm
6000 mm	Rear dozer up							*5150	3950	3450				*2850	*2850	2600	
	Rear dozer down								*5150	3900					*2850	*2850	
	Dozer and stabilizer down								*5150	*5150					*2850	*2850	6980
	2 sets of stabilizers down							*5150	*5150	*5150				*2850	*2850	*2850	
	Wide rear dozer up								3950	3750					*2850	*2850	
4500 mm	Rear dozer up				*6550	6050	5250	5350	3800	3350	3700	2600	2300	*2750	2450	2150	
	Rear dozer down					*6550	6000		*5850	3800		*3850	2600		*2750	2450	
	Dozer and stabilizer down					*6550	*6550		*5850	5600		*3850	3850		*2750	*2750	7720
	2 sets of stabilizers down				*6550	*6550	*6550	*5850	*5850	*5850	*3850	*3850	*3850	*2750	*2750	*2750	
	Wide rear dozer up					6050	5750		3850	3650		2600	2500		2500	2350	
3000 mm	Rear dozer up				8000	5550	4800	5150	3600	3150	3600	2550	2200	*2750	2200	1900	
	Rear dozer down					*8350	5550		*6450	3600		5450	2550		*2750	2200	
	Dozer and stabilizer down					*8350	*8350		*6450	5350		*5450	3800		*2750	*2750	8100
	2 sets of stabilizers down				*8350	*8350	*8350	*6450	*6450	6200	*5450	*5450	4350	*2750	*2750	*2750	
	Wide rear dozer up					5600	5300		3650	3450		2550	2450		2250	2150	
1500 mm	Rear dozer up				7500	5100	4350	4900	3400	2950	3500	2450	2100	*2900	2100	1850	
	Rear dozer down					*9700	5050		*7100	3400		5300	2450		*2900	2100	
	Dozer and stabilizer down					*9700	7900		*7100	5150		5350	3700		*2900	*2900	8190
	2 sets of stabilizers down				*9700	*9700	9350	*7100	*7100	5950	*5700	5500	4250	*2900	*2900	*2900	
	Wide rear dozer up					5150	4850		3400	3250		2450	2350		2150	2050	
0 mm	Rear dozer up				7200	4850	4100	4750	3250	2800	3450	2350	2050	3150	2150	1850	
	Rear dozer down					*10 100	4800		*7350	3250		5200	2350		*3200	2150	
	Dozer and stabilizer down					*10 100	7600		*7350	4950		5250	3600		*3200	*3200	7990
	2 sets of stabilizers down				*10 100	*10 100	9000	*7350	*7350	5800	*5650	5400	4200	*3200	*3200	*3200	
	Wide rear dozer up					4850	4550		3250	3100		2400	2250		2150	2050	
–1500 mm	Rear dozer up	*9000	8950	7300	7100	4750	4000	4650	3150	2700				3450	2350	2050	
	Rear dozer down		*9000	8800		*9600	4700		*7000	3150					*3750	2350	
	Dozer and stabilizer down		*9000	*9000		*9600	7500		*7000	4900					*3750	3600	7480
	2 sets of stabilizers down	*9000	*9000	*9000	*9600	*9600	8900	*7000	*7000	5700				*3750	*3750	*3750	
	Wide rear dozer up		8950	8300		4750	4500		3200	3000					2350	2250	
–3000 mm	Rear dozer up	*11 000	9100	7450	7150	4800	4050	4700	3200	2750				4150	2850	2450	
	Rear dozer down		*11 000	8950		*8050	4750		*5750	3200					*4700	2850	
	Dozer and stabilizer down		*11 000	*11 000		*8050	7550		*5750	4950					*4700	4350	6580
	2 sets of stabilizers down	*11 000	*11 000	*11 000	*8050	*8050	*8050	*5750	*5750	*5750				*4700	*4700	*4700	
	Wide rear dozer up		9150	8450		4800	4550		3250	3050					2900	2750	

*Limited by hydraulic rather than tipping load.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The load point is the center line of the bucket pivot mounting pin on the stick. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface and the Variable Boom Cylinder adjusted to the maximum length. For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

Lift Capacities – One-Piece Boom

All values are in kg, bucket cylinder and bucket linkage installed, work tool: none, with counterweight (4200 kg), heavy lift on.

Load at maximum reach (stick nose/bucket pin) | Load over front | Load over rear | Load over side | Load point height

Long Stick 2800 mm

	Undercarriage configuration	3000 mm			4500 mm			6000 mm			7500 mm						mm
6000 mm	Rear dozer up							*5150	3900	3450				*3000	*3000	2650	
	Rear dozer down								*5150	3900					*3000	3000	
	Dozer and stabilizer down								*5150	*5150					*3000	*3000	7000
	2 sets of stabilizers down							*5150	*5150	*5150				*3000	*3000	*3000	
	Wide rear dozer up								3950	3750					*3000	2850	
4500 mm	Rear dozer up							5300	3800	3350	3700	2650	2300	*2900	2500	2150	
	Rear dozer down								*5700	3800		*4000	2650		*2900	2500	
	Dozer and stabilizer down								*5700	5550		*4000	3850		*2900	*2900	7730
	2 sets of stabilizers down							*5700	*5700	*5700	*4000	*4000	*4000	*2900	*2900	*2900	
	Wide rear dozer up								3800	3650		2650	2500		2500	2400	
3000 mm	Rear dozer up				7950	5550	4800	5100	3600	3150	3600	2550	2250	*2950	2250	1950	
	Rear dozer down					*8250	5500		*6400	3600		5400	2550		*2950	2250	
	Dozer and stabilizer down					*8250	*8250		*6400	5350		5450	3800		*2950	*2950	8120
	2 sets of stabilizers down				*8250	*8250	*8250	*6400	*6400	6150	*545	*5450	4350	*2950	*2950	*2950	
	Wide rear dozer up					5550	5250		3650	3450		2550	2450		2250	2150	
1500 mm	Rear dozer up				7450	5100	4400	4900	3400	2950	3500	2450	2150	3050	2150	1850	
	Rear dozer down					*9700	5100		*7050	3400		5250	2450		*3150	2150	
	Dozer and stabilizer down					*9700	7850		*7050	5100		5300	3700		*3150	*3150	8210
	2 sets of stabilizers down				*9700	*9700	9250	*7050	*7050	5950	*5700	5450	4250	*3150	*3150	*3150	
	Wide rear dozer up					5150	4850		3450	3250		2450	2350		2150	2050	
0 mm	Rear dozer up				7200	4850	4150	4700	3250	2800	3450	2400	2050	3150	2150	1900	
	Rear dozer down					*10 200	4850		7350	3250		5200	2400		*3500	2200	
	Dozer and stabilizer down					*10 200	7600		7350	4950		5250	3600		*3500	3300	8010
	2 sets of stabilizers down				*10 200	*10 200	8950	*7400	*7400	5750	*5750	5350	4150	*3500	*3500	*3500	
	Wide rear dozer up					4900	4600		3300	3100		2400	2300		2200	2100	
–1500 mm	Rear dozer up	*8900	*8900	7400	7100	4800	4050	4650	3200	2750				3400	2350	2050	
	Rear dozer down		*8900	8850		*9800	4750		*7200	3200					*4200	2350	
	Dozer and stabilizer down		*8900	*8900		*9800	7500		*7200	4900					*4200	3600	7500
	2 sets of stabilizers down	*8900	*8900	*8900	*9800	*9800	8900	*7200	*7200	5700				*4200	*4200	4150	
	Wide rear dozer up		*8900	8350		4800	4550		3200	3050					2400	2250	
–3000 mm	Rear dozer up	*11 700	9150	7550	7150	4850	4100	4700	3250	2800				4150	2850	2500	
	Rear dozer down		*11 700	9000		*8450	4800		*6100	3200					*5150	2850	
	Dozer and stabilizer down		*11 700	*11 700		*8450	7550		*6100	4900					*5150	4350	6600
	2 sets of stabilizers down	*11 700	*11 700	*11 700	*8450	*8450	*8450	*6100	*6100	5750				*5150	*5150	5000	
	Wide rear dozer up		9200	8500		4850	4600		3250	3100					2850	2750	
–4500 mm	Rear dozer up				*5500	5000	4300							*4500	4250	3650	
	Rear dozer down					*5500	5000								*4500	4250	
	Dozer and stabilizer down					*5500	*5500								*4500	*4500	5090
	2 sets of stabilizers down				*5500	*5500	*5500							*4500	*4500	*4500	
	Wide rear dozer up					5050	4750								4250	4050	

*Limited by hydraulic rather than tipping load.

Lift capacity ratings are based on ISO 10567:2007, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. The load point is the center line of the bucket pivot mounting pin on the stick. The oscillating axle must be locked. Lifting capacities are based on the machine standing on a firm uniform supporting surface and the Variable Boom Cylinder adjusted to the maximum length. For lifting capacity including bucket and/or quick coupler, the respective weight has to be subtracted from above values. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

Always refer to the appropriate Operation and Maintenance Manual for specific product information.

M320F Wheeled Excavator Standard Equipment

Standard Equipment

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

ELECTRICAL

- Alternator, 115 A
- Lighting
  - LED light package, including all working lights (compatible with falling object guard). Working lights include cab mounted lights (two front, one rear), one on the counterweight for the rear camera, and one on the right for the sideview camera.
  - Boom LED working light
  - Cab interior LED light
  - Roading lights two front, halogen
  - Roading lights two rear, LED modules
- Main shut-off switch
- Maintenance free batteries, heavy duty
- Signal/warning horn
- Electrical refueling pump

ENGINE

- Cat C7.1 engine with ACERT Technology meets Stage IV emission standards
- Aftertreatment technologies including the Cat Clean Emission Module (Cat CEM) package
- Automatic Engine Speed Control (AESC), including one touch low idle
- Engine Idle Shutdown (EIS)
- Power mode selector
- Altitude 3000 m capability without de-rate
- Automatic starting aid
- Fuel/water separator with water in fuel switch
- Electric fuel priming pump

HYDRAULICS

- Adjustable hydraulic sensitivity
- Auxiliary boom and stick lines
- All Cat XT™-6 ES hoses
- Anti-drift valves for bucket and tool control/multi-function circuits
- Basic control circuits:
  - Medium pressure
    - Two-way, medium pressure circuit, for rotating or tilting of attachments
  - Tool control/multi function
    - One/two-way high pressure for hammer application or opening and closing of an attachment
  - Programmable flow and pressure for up to 10 attachments – selection via monitor
  - Quick coupler circuit and lines for hydraulic quick coupler (both Cat Pin Grabber and dedicated/CW Quick couplers, controlled by a dedicated switch)
- Boom Lowering Check Valve (BLCV), including overload warning device
- Electric Pump Control (EPC)
- Heavy lift mode
- Load-sensing hydraulic system
- Separate swing pump
- Stick Lowering Check Valve (SLCV)
- Stick regeneration circuit

(continued on next page)

Standard Equipment *(continued)*

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

OPERATOR STATION

- Reinforced (ROPS) cab structure compliant with 2006/42/EC and tested according to ISO 12117-2:2008
- Adjustable armrests
- Air conditioner, heater and defroster with automatic climate control
- Cigarette lighter (24 volt)
- Beverage cup/can holder
- Bolt-on Falling Object Guards (FOGS) capability
- Bottle holder
- Bottom mounted intermittent (four speeds) wiping system that covers the upper and lower windshield glass
- Cameras
  - Rear mounted wide angle camera (integrated into the counterweight)
  - Right side wide angle camera, mounted on the cooling hood.
  - Both cameras are displayed side by side on a dedicated large color monitor
- Coat hook
- Cruise Control System
- Fastened seat belt warning signal
- Floor mat, washable, with storage compartment
- FM Radio with CD player, speakers and USB port
- Fully adjustable suspension seat
- Instrument panel, full graphic and color display
  - Information and warning messages in local language
  - Gauges for fuel level, engine coolant, Diesel Exhaust Fluid (DEF) and hydraulic oil temperature
  - Filters/fluids change intervals
  - Indicators for headlights, turning signal, low fuel, engine dial setting
  - Clock with 10-day backup battery
- Interior LED lighting with door switch
- Joystick pilot operated with one proportional slider
- Laminated upper front windshield
- Left side console, tiltable, with lock out for all controls
- Literature holder in right hand side panel
- Mobile phone holder
- Parking brake
- Pin-code, engine start prevention
- Power supply, 12V-10A
- Rain protector*
- Rear window (tempered glass)/emergency exit, with hammer
- Retractable seat belt, integrated into the seat
- Safety lever, integrated into the left console
- Sealed cab with positive filtered ventilation
- Skylight, laminated glass
- Sliding door windows
- Steering column, adjustable height and angle
- Storage area suitable for a lunch box
- Sunshade for windshield and skylight

UNDERCARRIAGE

- All wheel drive
- Automatic brake/axle lock
- Creeper speed
- Electronic swing and travel lock
- Heavy-duty axles, advanced disc brake system and travel motor, adjustable braking force
- Oscillating front axle, lockable, with remote greasing point
- Steps with box in undercarriage (left and right)
- Two-piece drive shaft, with 1,000 hours greasing intervals
- Two speed hydrostatic transmission
- Spacer rings for tires

OTHER EQUIPMENT

- Auto-lube, centralized greasing (implement and swing gear)
- Automatic swing brake
- Bucket linkage for digging sticks
- Counterweight, 3700 kg
- Engine emergency shutoff switch
- Mirrors, wide angle, frame and cab
- Product Link
- S·O·S℠ sampling valves for engine oil, hydraulic oil and coolant

*Not compatible with the falling objects guards

M320F Wheeled Excavator Optional Equipment

Optional Equipment

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

AUXILIARY CONTROLS AND LINES

- Basic control circuits:
  - Second high pressure
    - Additional two-way, high pressure circuit, for tools requiring a second high or medium pressure function
- SmartBoom
- Grapple open/close controllable via bucket control on right joystick, can be selected in the monitor

HYDRAULICS

- Cat BIO HYDO Advanced HEES biodegradable hydraulic oil

FRONT LINKAGE

- Booms
  - One-piece boom, 5350 mm
  - VA boom (two piece), 5260 mm
- Sticks
  - 2500, 2800 mm
  - 3300 mm Industrial Stick (without autolube)

ELECTRICAL

- Adjustable travel alarm
- Rotating beacon on cab

OPERATOR STATION

- Advanced joysticks with two proportional sliders
- Joystick steering
- Seat, adjustable high-back, with vertical and horizontal air-suspension and head rest
  - Comfort, automatic weight adjustment, mechanical lumbar support, heated
  - Deluxe seat adds automatic height and weight adjustment, pneumatic lumbar support, premium fabric, heated and ventilated
- Windshield
  - One-piece impact resistant, laminated windshield and skylight (EN356 P5A standards, 10 mm)
  - 70/30 split, openable
- Mirrors electrically adjustable and heated, frame and cab
- High pressure auxiliary pedal
- Joystick pattern, changeable
- Falling Objects Guards (top and front)

UNDERCARRIAGE

- Rear blade (parallel)
- Rear blade, wide (parallel)
- Front blade (parallel)/rear outriggers
- Front outriggers/rear blade (parallel)
- Front outriggers/rear blade, wide (parallel)
- Front and rear outriggers
- Travel restraint, for roading with a clamshell

OTHER EQUIPMENT

- Cat Machine Security System (MSS)
- Cooling protection package for dusty applications (includes fine mesh for enhanced radiator protection and engine air precleaner)
- Counterweight, 4200 kg
- Fenders, front and rear
- Ride Control
- Tires (see pg. 22)
- Attachments (see pg. 25-27)
- Tilt-Rotator-Ready Package

Notes

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