320D SERIES 2 FM

FOREST MACHINE

Engine		
Engine Model	Cat® C7.1 ACERT™	
Net Flywheel Power	110 kW	149 hp

Weights		
General Forestry (HW)	27 330 kg	60,252 lb
Log Loader (LC/HD)	25 200 kg	55,556 lb
Feller Buncher (HW))	28 410 kg	62,633 lb

Operating weight with front linkage, without bucket or grapple.

320D Series 2 FM Forest Machine Features

Power Train
The Cat C7.1 with ACERT Technology gives the 320D2 FM exceptional power and improved fuel efficiency unmatched in the industry.

Hydraulics
Forest Machine hydraulic systems are designed to provide reliability, outstanding controllability and proven performance in all forestry applications. Hydraulic configurations are offered for a variety of work tools to get the job done right.

Operator Comfort
Spacious purpose-built forestry cab with excellent sightlines to the work area with 8 lights and all scratch resistant polycarbonate windows. Certifications include, FOPS to ISO 8083:2006 Level II, OPS to ISO 8084: 2003, ROPS to ISO8082-2-2011, OR-OSHA 437-007-0775, and WCBG603/G604/G608.

Structures
Purpose-built upper frame, boom, stick and carbody designs use the most advanced manufacturing processes, and are all supported by the largest swing bearing in the industry. These features insure durability and reliability in the most rugged forestry applications.

Guarding
Factory forestry cab, shoe support guards and heavy-duty access doors, and optional hood protection guard package help extend component life, reduces downtime and helps to protect your forestry machine investment.

Undercarriage
Heavy-duty next size up link assemblies provide toughness and durability. Heavy-duty idlers and track rollers along with superior final drive design, maximize undercarriage life and minimize operating costs. Updated Carrier Rollers with 4 point mounting improves the log loader undercarriage durability.

Versatility
Designed and purpose-built to meet a variety of forestry applications, the 320D2 FM can help improve productivity in various forestry, harvester, processor, log loader, and millyard applications. It's power, reliability, durability, and versatility make it an ideal machine for whatever your job site needs are.

Serviceability
The upper frame and compartmental design provide easy access to all radiator cores, hydraulics, engine, air cleaner and battery compartments for faster cleanouts. Regularly scheduled maintenance extends machine service life and lowers overall operating costs.

Owning and Operating Costs
Proven fuel efficiency combined with easier access and extended service intervals maximize uptime, reduce operating costs and maximize productivity.

Customer Focus
Down time is minimized by the utilization of a worldwide computer network that can help find in-stock parts and minimize your down time. Product Link™ is standard equipment, providing many machine service and maintenance tracking features, as well as working hours and location. Your Cat® dealer can also offer a wide range of other services that can be set up to meet your equipment needs. The dealer will help choose the plan that can cover everything from machine and attachment selection to replacement.

Contents

The D Series 2 incorporates innovations for improved fuel efficiency and performance, rugged durability and maximum productivity.

Power Train

Exceptional power and fuel efficiency

Cat C7.1 ACERT

The Cat C7.1 with ACERT Technology gives the 320D2 FM exceptional power and fuel efficiency unmatched in the industry. The forestry designed hydraulics give the 320D2 FM power, efficiency and controllability unequaled in the industry for consistently high performance in all forestry applications.

Performance

The C7.1 ACERT engine replaces the previous C6.4 ACERT engine. Performance is maintained while fuel efficiency is improved, lowering owning & operating costs.

Automatic Engine Speed Control

Automatic engine speed control is activated during no-load or light-load conditions which reduces engine speed to minimize fuel consumption.

ADEM™ A4 Engine Controller

The ADEM A4 electronic control module manages fuel delivery to get the best performance per liter of fuel used. The engine management system provides flexible fuel mapping, allowing the engine to respond quickly to varying application needs. It tracks engine and machine conditions while keeping the engine operating at peak efficiency.

Electronic Control Module

The Electronic Control Module (ECM) works as the "brain" of the engine's control system, responding quickly to operating variables to maximize engine efficiency. Fully integrated with sensors in the engine's fuel, air, coolant, and exhaust systems, the ECM stores and relays information on conditions such as rpm, fuel consumption, and diagnostic information.

Fuel Delivery

The Cat C7.1 ACERT features electronic controls that govern the fuel injection system, and features an improved filtration system to ensure good reliability to fuel injection system components. Intervals have been extended and the number of filters reduced to maximize your profit potential.

Cooling System

The cooling fan is directly driven from the engine. An optional programmable reversible fan allows for radiator blowout, to increase service intervals and to maintain engine operational temperatures. The optimum fan blade pitch is calculated based on the target engine speed, coolant temperature, and hydraulic oil temperature. The Cat C7.1 ACERT delivers a completely new layout with improved cooling system.

Air Cleaner

The radial seal air filter features a double-layered filter core for more efficient filtration and is located in a compartment behind the cab. A warning is displayed on the monitor when debris is plugging filter above a preset level.

Prefilter

An optional air cleaner Prefilter is available for the 320D2 FM. This Prefilter reduces debris ingestion into air cleaner filters, reducing plugging and extending air filter service intervals.

Noise Reduction Technologies

The engine mounts are rubber-isolating mounts matched with the engine package. Further noise reduction has been achieved through design changes to the isolated top cover, oil pan, multiple injection strategy, insulated timing cover, sculpted crankcase and gear train refinements.

Hydraulics

Power and control needed for a variety of applications

Component Layout

The 320D2 FM hydraulic system and component locations have been designed to provide a high level of system efficiency. The main pumps, control valves and hydraulic tank are located close together to allow for shorter tubes and lines between components that reduce friction and pressure drops in the lines. The layout further provides greater operator comfort by placing the radiator on the cab side of the upper structure. This allows incoming air to enter the engine compartment from the operator side and hot air and corresponding engine sound to exit on the opposite side away from the operator. This reduces engine compartment heat and sound being transmitted to the operator.

Pilot System

The pilot pump is independent from the main pumps and provides pilot oil to control all the front linkage, swing and travel valve functions.

Hydraulic Cross Sensing System

The hydraulic cross sensing system improves productivity with fast implement speeds and quick pump response.

Boom and Stick Regeneration Circuit

Boom and stick regeneration circuits save energy during boom-down and stick-in operation which increases efficiency, reduces cycle times and pressure loss for higher productivity, lower operating costs and increased fuel efficiency.

Swing System

New improved swing drive system provides 20% higher swing torque. Better swing performance improves productivity and operator efficiency.

Controllability

The hydraulic system offers precise control to the 320D2 FM reducing operator fatigue, improving operator effectiveness and efficiency, which ultimately translates into enhanced performance.

Auxiliary Hydraulics

The auxiliary valve is standard on the 320D2 FM. Various Control Circuits are available as attachments, allowing for operation of a large variety of work tools.

Hydraulic Cylinder Snubbers

Snubbers are located at the rod-end of the boom cylinders and both ends of the stick cylinders to cushion shocks, reduce sound and increase cylinder life, increasing uptime and productivity.

Operator Comfort

Maximizes space, provides exceptional comfort, excellent sightlines, and reduces operator fatigue

Operator Station

The workstation is spacious, quiet and comfortable, assuring high productivity during a long work day. Controls, joysticks and an ergonomically designed seat are strategically placed to reduce operator fatigue.

Monitor

The new monitor is a full-color Liquid Crystal Display (LCD). Monitor is equipped with warning lamp and buzzer for critical engine oil pressure, coolant temperature and oil temperature. Filters and fluid change intervals are available in the main menu. The monitor angle can be adjusted to minimize sun glare. Compared to 320D Series monitor, the new monitor on the 320D2 FM has a 40% larger screen, with a four times increased resolution display. Information language capability increased from 28 to 42 languages to support today's diverse workforce.

Pre-Start Check

Prior to starting the machine, the system will check for low fluid levels for the engine oil, hydraulic oil and engine coolant and warn the operator through the monitor in the event display area.

Gauge Display

Three analog gauges, fuel level, hydraulic oil temperature and coolant temperature, are displayed in this area.

Event Display

Machine information is displayed in this area with both icon and language.

Multi-Information Display

This area is reserved for displaying various information which is convenient for the operator. The "Cat" logo is displayed when no information is available to be displayed.

Seat

A comfortable air suspension seat provides a variety of adjustments to suit the operator's size and weight including fore/aft, height settings. Wide adjustable armrests and a retractable seat belt are also included.

Joystick Control

Joystick controls have low lever effort and are designed to match the operator's natural wrist and arm position. The operator can operate joystick controls with an arm on the armrest and the horizontal and vertical strokes have been designed to reduce operator fatigue. Exclusive proportional control and push buttons are programmable to operator personal preferences, allowing maximum productivity.

Hydraulic Activation Control Lever

For added safety, this lever must be in the operate position to activate the machine control functions.

Console

Consoles feature a simple, functional design to reduce operator fatigue, ease of switch operation and excellent visibility.

Skylight

A skylight with sunshade provides excellent upwards visibility.

Viewing

Cab design optimizes post structures, and scratch-resistant polycarbonate window placement to provide excellent operator visibility to front, sides and rear. Forestry cab is designed with heavy-duty guarding, meeting all ROPS/FOPS/OPS requirements. Windshield wipers are standard equipment on the FM cab.

Structures

Purpose-built linkage, upper frame, carbody and heavy duty guarding

BUILT FOR IT.™

Rugged main frame design maximizes durability

- Outer frame utilizes curved side rails, which are di-formed for excellent uniformity and strength.
- ROPS certified box-section channels improve upper frame rigidity under the cab.
- Inverted U-channels span the width of the main frame and are formed, rather than fabricated, for superior strength and reduced weight.
- Boom tower and main rails are constructed of solid, high-tensile strength, steel, and reinforced at boom foot.
- Swing drive area is reinforced into the main frame rails supporting high stress loads such as those encountered in grapple saw or harvester applications.

Carbody Design

Advanced, reinforced, purpose-built carbody design stands up in the toughest forest applications.

- 320D2 FM Log Loader
  -Standard 320D2 L Excavator Carbody
- 320D2 FM General Forestry
  -Hide Wide Forestry Carbody

Carbody Structure

Heavy-duty purpose built carbody structure provides operating stability and durability while improving operation's effectiveness.

- Upper structure weight and stresses are distributed evenly across the full length of the track roller frame.
- Smooth transitions and robot welding help reduce stresses at the carbody-to-roller frame junctions for excellent durability.

Guarding

Protection for your forestry machine investment

Shoe Support Guards

Standard full length track shoe support guards help protect rollers and provide increased rigidity to track links in rough underfoot conditions.

Factory Forestry Cab

Caterpillar designed purpose-built ROPS/FOPS certified cab for the toughest forestry applications. The windows are made from impact resistant polycarbonate. One fresh air window with screen is standard.

Heavy-Duty Access Doors

Heavy-duty 6mm (0.24 in) access doors are standard on the 320D2 FM General Forestry model. HD latches and larger hinge pins keep doors in place. The smooth door profile enhances machine appearance, and helps shed debris.

Undercarriage

Strong travel power and excellent stability

320D2 FM Log Loader

Log Loader model comes standard with Heavy-Duty/Long undercarriage using standard 320D2 L Excavator 191 mm (7.5 inch) pitch link assemblies and rolling components. New double saddle mounted Carrier Rollers have been added to increase undercarriage life.

320D2 FM General Forestry

1) Heavy-Duty Carrier Rollers

Heavy-duty carrier rollers with dual supports assure superior endurance.

2) Heavy-Duty Track Rollers

Heavy-duty track rollers stand up to the toughest forest applications. Features include greater sealability, higher resistance to deformation and greater load carrying capacity.

3) Heavy-Duty Grease Lubricated Track

The D5H HD Track Link with 191mm (7.5 inch) pitch and 8 bottom rollers is standard on the 320D2 FM GF and Feller Buncher models.

D5H HD Track Features

1) Grease Lubricated Track

The grease lubricated track extends internal bushing wear life, while reducing noise and providing more usable horsepower because of decreased internal friction.

2) 10% Larger Bushing Diameter

- Extends external bushing wear life

3) 15% Increase in Link Height

- Increases link wear life

4) 36% Wider Bushing Strap

- Improves bushing-to-link retention

5) Unique Pin Retention System (PPR2)

- Locks the pin to the link

Versatility

Meet diverse forestry applications and improve your productivity

Log Loader (LL)

The Cat Log Loader is purpose built for forest applications. Straight boom design and matched stick provide optimum reach and lift performance.

Processor

Grapple Saw and Slasher configurations provide flexibility for processing trees to meet a variety of requirements.

General Forestry (GF)

The Cat GF machines can be equipped with bucket, thumb, stump pullers and clearing grapples to fit a wide range of forest road and site preparation jobs.

Feller Buncher

The 320D2 FM (GF) can also be configured as a Feller Buncher with auxiliary pump, and line groups for hot saw hydraulic requirements.

Harvester

Harvester hydraulic and linkage attachments allow configuring the 320D2 FM as a harvester or road side processor.

Owning and Operating Costs

Providing the best value for your forestry and millyard applications

ACERT Technology Fuel Economy

Based on Caterpillar testing of Cat engines with ACERT technology, they provide better fuel economy than current competing technologies. This fuel economy is directly related to the complete combustion of fuel due to the integration between the electronic control that monitors conditions, the air management system that controls air volume and the fuel injection system that delivers just the right amount of fuel as needed.

Air Filter

Easy access doors allows for easy, faster cleanout minimizing downtime. Heavy-duty screens assembled on the door keep debris away from the radiator compartment, extending service intervals.

Product Link

Product Link is standard equipment and factory installed. Product Link helps you keep track of hours worked, fuel consumption, location, fault codes, product health, and managing operating costs and productivity.

Serviceability

Easy to access, easy to maintain, saving you time and money

Ground Level Service

The design and layout of the 320D2 FM was made with the service technician in mind. Many service locations are easily accessible at ground level allowing critical maintenance to get done quickly and efficiently.

Air Filter Compartment

The air filter features a double-element construction for superior cleaning efficiency. When the air cleaner plugs, a warning is displayed on the monitor screen inside the cab.

Pump Compartment

A service door on the right side of the upper structure allows ground-level access to the pump and pilot filter.

Radiator Compartment

The left rear service door allows easy access to the engine radiator, oil cooler and air-to air aftercooler. A reserve tank and drain cock are attached to the radiator for simplified maintenance.

Grease Lubricated Track

Grease lubricated seals protect the track link and deliver long track pin and bushing inner wear life.

Capsule Filter

The hydraulic return filter, a capsule filter, is situated outside the hydraulic tank. This filter prevents contaminants from entering the system when hydraulic oil is changed and keeps the operation clean.

Fan Guard

Engine radiator fan is completely enclosed by fine wire mesh, reducing the risk of an accident.

Anti-Skid Plate

Anti-skid plate material used on all walkways.

Diagnostics and Monitoring

The 320D2 FM is equipped with S•O•S^{SM} sampling ports and hydraulic test ports for the hydraulic system, engine oil, and for coolant. A test connection for the Cat Electronic Technician (Cat ET) service tool is located in the cab.

Extended Service Interval

320D2 FM service and maintenance intervals have been extended to reduce machine service time and increase machine availability.

Cab Tilt

A hydraulic tilting cab and riser provide easy service access beneath cab. Cab can be left in tilted position to make transport easier.

Customer Focus

Cat dealer services help you operate longer with lower costs

Product Support

Cat dealers utilize a worldwide parts network to minimize machine downtime. Plus you can save money with Cat remanufactured components.

Machine Selection

Make detailed comparisons of the machines you are considering before you buy. What are the job requirements, machine attachments and worktools required, and operating hours? What production capability is needed? Your Cat dealer can provide recommendations.

Purchase

Consider financing options and day-to-day operating costs. Look at dealer services that can be included in the machine's cost to yield lower owning and operating costs over time.

Customer Support Agreements

Cat dealers offer a variety of product support agreements, and work with customers to develop a plan that best meets specific needs. These plans can cover the entire machine, including attachments, to help protect the customer's investment.

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 operator training classes to help maximize the return on your investment.

Replacement

Repair option programs guarantee the cost of repairs up front. Repair, rebuild, or replace? Your Cat dealer can help you evaluate the cost involved so you can make the right choice.

320D Series 2 Forest Machine Specifications

Engine

Engine Model	Cat C7.1 ACERT	
Engine Power - ISO 14396	118 kW	158 HP
Net Power - SAE J1349/ISO 9249	110 kW	149 HP
Bore	105 mm	4.13 in
Stroke	135 mm	5.31 in
Displacement	7.1 L	428 in^2

- The 320D2 FM meets all emission requirement regulations.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator.
- No engine derating required below 3000 m (9,000 ft) altitude.

Weights

General Forestry (HW)	27 330 kg	60,252 lb
Log Loader (LC/HD)	25 200 kg	55,556 lb
Feller Buncher (HW)	28 410 kg	62,633 lb

- Operating weight with front linkage and standard cab and riser. Does not include work tool attachment.

Service Refill Capacities

Fuel Tank	410 L	108 gal
Fuel Tank – Optional Auxiliary Right Front	410 L	108 gal
Maximum Fuel with all Optional Tanks	820 L	217 gal
Cooling System	25 L	6.6 gal
Engine Oil	30 L	7.9 gal
Swing Drive	8 L	2.1 gal
Hydraulic System (including tank)	260 L	68.7 gal
Hydraulic Tank	138 L	36.5 gal
Final Drive (each) - Log Loader	10 L	2.6 gal
Final Drive (each) - General Forestry	13 L	3.4 gal

Drive

Maximum Travel Speed Log Loader	5.6 km/h	3.5 mph
Maximum Drawbar Pull Log Loader	188 kN	42,264 lb
Maximum Travel Speed General Forestry	4.3 km/h	2.6 mph
Maximum Drawbar Pull General Forestry	248 kN	55,700 lb

Hydraulic System

Main Implement System – Max. Flow at Travel (2x)	214x2 L/min	56.5x2 gal/min
Main System - Maximum Flow at Operation	202x2 L/min	53.4 gal/min
Max. pressure – Implements	35 000 kPa	5,075 psi
Max. pressure – Travel	35 000 kPa	5,075 psi
Max. pressure – Swing	25 000 kPa	3,625 psi
Pilot System – Maximum flow	23.1 L/min	6.1 gal/min
Pilot System – Maximum pressure	3920 kPa	569 psi
Boom Cylinder – Bore	120 mm	4.7 in
Boom Cylinder – Stroke	1260 mm	49.6 in
Stick Cylinder – Bore	140 mm	5.5 in
Stick Cylinder – Stroke	1504 mm	59.2 in

Log Loader Linkage

Boom Cylinder – Bore	120 mm	4.7 in
Boom Cylinder – Stroke	1260 mm	49.6 in
Stick Cylinder – Bore	140 mm	5.5 in
Stick Cylinder – Stroke	1504 mm	59.2 in

Swing Mechanism

Swing Torque	73.2 kN·m	54,000 lb ft
Swing Speed	11.5 rpm	11.5 rpm

Harvester Linkage

Boom Cylinder – Bore	120 mm	4.7 in
Boom Cylinder – Stroke	1260 mm	49.6 in
Stick Cylinder – Bore	140 mm	5.5 in
Stick Cylinder – Stroke	1504 mm	59.02 in

Standards

Brakes	SAE J1026 APR90
Cab ROPS/OPS/ FOPS	ROPS to ISO 8082-2: 2011, OPS to ISO 8084: 2003, FOPS to ISO 8083: 2006 Level II, OR OSHA 437-007-0775, WCB G603/ G604/G608

Feller Buncher Bucket Cylinder

CB2 Family Bucket Cylinder – Bore	135 mm	5.3 in
B1 Family Bucket Cylinder – Stroke	1156 mm	45.5 in

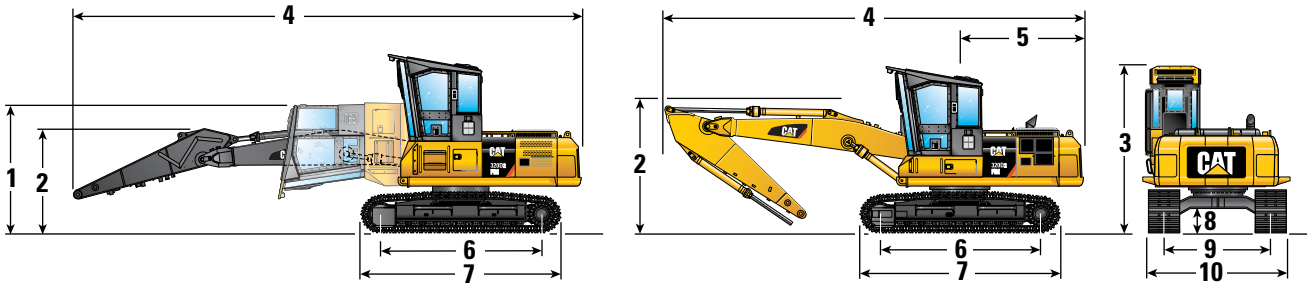
Standard Bucket Cylinder

B1 Family Bucket Cylinder – Bore	120 mm	4.7 in
B1 Family Bucket Cylinder – Stroke	1104 mm	43.5 in

320D Series 2 Forest Machine Specifications

Dimensions

All dimensions are approximate



320D2 FM	Log Loader*	General Forestry **
1 Shipping height. (All risers with cab tilted)	3203 mm (10'6")	3226 mm (10'7")
2 Boom height	3040 mm (10'0")	3060 mm (10'0")
3 Overall height	4093 mm (13'5")	3842 mm (12'7")
4 Shipping length	9460 mm (31'0")	9460 mm (31'0")
5 Tail swing radius	2721 mm (8'11")	2721 mm (8'11")
6 Length to centers of rollers	3650 mm (12'0")	3715 mm (12'2")
7 Track length	4475 mm (14'8")	4555 mm (14'11")
8 Ground clearance	479 mm (1'7")	600 mm (2'0")
9 Track gauge	2380 mm (7'10")	2380 mm (7'10")
10 Transport width to outside of walkways	3256 mm (10'8")	3256 mm (10'8")

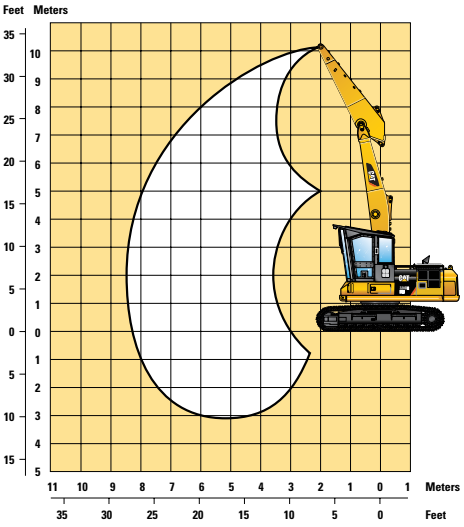
* Excavator HDLC Undercarriage and 0.8M (32") Riser

** Heavy-Duty High Forestry Undercarriage and 0.46M (18") Riser

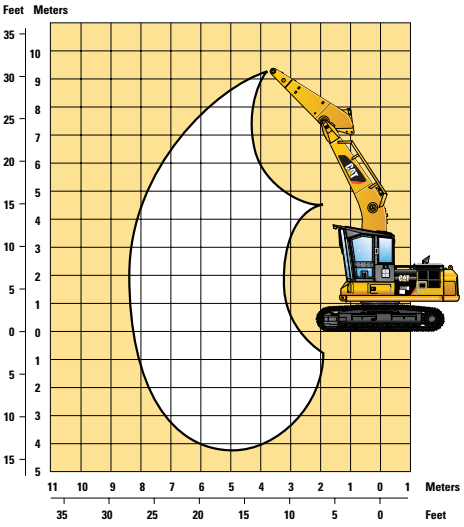
320D Series 2 FM Working Ranges

General Forestry, Log Loader working ranges

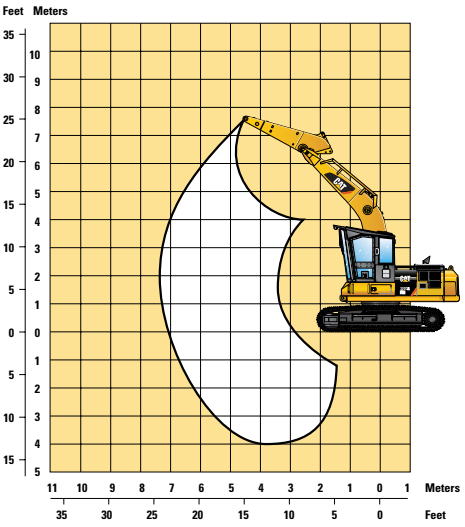
General Forestry
Harvester 5.7 m (18'8") Straight Boom
with Processor 2.9 m (9'6") Stick



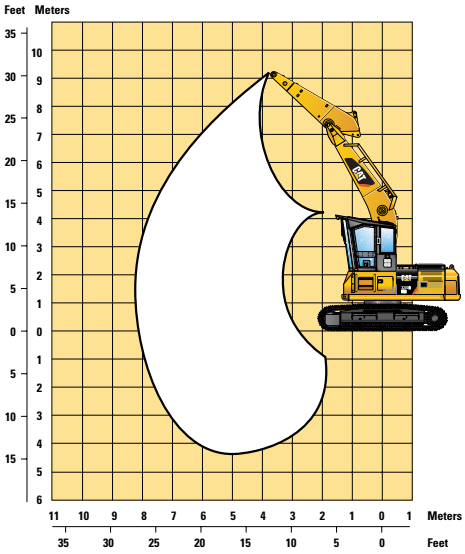
General Forestry
Harvester 5.7 m (18'8") Curved Boom
with Processor 2.9 m (9'6") Stick



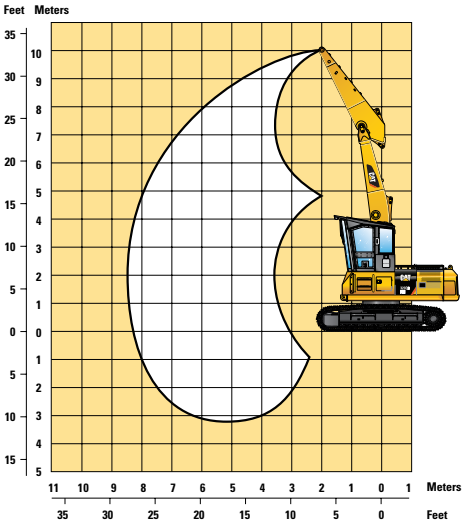
General Forestry
Feller Buncher 5.2 m (17'1") Boom
with 2.4 m (7'10") Stick



Log loader
HD/LC 5.7 m (18'8") HD R Curved Boom
with R2.9B1 (9'6") Stick



Log Loader
HD/LC 5.7 m (18'8") Straight Boom
with R2.9B1 (9'6") Stick



320D Series 2 Forest Machine Specifications

320D2 FM General Forestry - Harvester Lift Capacities

BOOM – 5.7M (18'8") Curved Boom
STICK – 2.9 m (9'6")

Lift Point Height		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		Maximum Reach		
		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
7.5 m 25.0 ft	kg lb							*4850	*4850			*4150 *9,200	*4150 *9,200	6.16 19.84
6.0 m 20.0 ft	kg lb							*5150 *11,300	*5150 *11,300			*3850 *8,500	*3850 *8,500	7.29 23.74
4.5 m 15.0 ft	kg lb							*5650 *12,300	5550 11,950	*5300 *11,650	3950 8,400	*3800 *8,350	3550 7,800	7.99 26.12
3.0 m 10.0 ft	kg lb					*8200 *17,700	8000 17,250	*6450 *14,000	5300 11,400	*5650 *12,300	3800 8,200	*3900 *8,500	3250 7,100	8.36 27.39
1.5 m 5.0 ft	kg lb					*9900 *21,300	7450 16,050	*7300 *15,850	5000 10,800	5800 12,500	3700 7,950	*4100 *9,000	3100 6,850	8.44 27.7
Ground Line	kg lb			*6550 *15,050	*6550 *15,050	*10 800 *23,350	7150 15,350	7850 16,900	4850 10,400	5700 12,300	3600 7,750	*4550 *10,000	3150 6,950	8.25 27.08
–1.5 m –5.0 ft	kg lb	*7050 *15,700	*7050 *15,700	*11 250 *25,500	*11 250 *25,500	*10 850 *23,550	7050 15,150	7750 16,700	4750 10,200	5650 12,200	3550 7,700	*5300 *11,700	3400 7,500	7.77 25.46
–3.0 m –10.0 ft	kg lb	*11 900 *26,750	*11 900 *26,750	*14 350 *31,050	13 600 29,150	*10 150 *21,950	7100 15,250	*7600 *16,300	4800 10,300			*6250 *13,750	4000 8,850	6.93 22.63
–4.5 m –15.0 ft	kg lb			*11 400 *24,400	*11 400 *24,400	*8250 *17,550	7300 15,800					*6300 *13,800	5500 12,350	5.58 18.01

* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard 10567:2007.
They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load.
Weight of all lifting accessories must be deducted from the above lifting capacities.
Lifting capacities are based on the machine standing on a firm, uniform supporting surface.
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.

320D2 FM General Forestry – Harvester Lift Capacities

BOOM – 5.7 m (18'8") Straight Boom
STICK – R2.9B1 (9'6")
SHOES – 600 mm (23.6") Double Grouser
UNDERCARRIAGE – HD High Forestry

Load Point Height		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		Maximum Reach		
		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
9.0 m 30.0 ft	kg lb			*5850	*5850					*5400 *12,350	*5400 *12,350	4.58 14.24
7.5 m 25.0 ft	kg lb			*6600 *14,650	*6600 *14,650	*5900 *11,800	5550 *11,800			*4300 *9,600	*4300 *9,600	6.40 20.62
6.0 m 20.0 ft	kg lb			*6400 *14,050	*6400 *14,050	*6700 *14,650	5550 11,900			*3900 *8,650	3850 8,500	7.49 24.40
4.5 m 15.0 ft	kg lb	*7700 *16,100	*7700 *16,100	*7900 *17,000	*7900 *17,000	*7250 *15,750	5400 11,600	5950 12,800	3800 8,200	*3750 *8,250	3300 7,300	8.17 26.72
3.0 m 10.0 ft	kg lb			*10 150 *21,900	7750 16,750	*7700 *16,650	5150 11,050	5850 12,550	3700 8,000	*3750 *8,200	3050 6,750	8.53 27.96
1.5 m 5.0 ft	kg lb			*10 700 *23,150	7250 15,650	*7900 17,050	4900 10,550	5750 12,300	3600 7,750	*3850 *8,450	3000 6,550	8.61 28.26
Ground Line	kg lb			*10 200 *22,150	7000 15,100	*7650 *16,550	4750 10,200	5650 12,150	3550 7,600	*4100 *9,050	3050 6,700	8.43 27.65
–1.5 m –5.0 ft	kg lb	*8850 *20,150	*8850 *20,150	*8750 *18,950	6950 15,000	*6700 *14,500	4700 10,100	*4850 *10,150	3550 7,650	*3950 *8,650	3300 7,300	7.96 26.07
–3.0 m –10.0 ft	kg lb			*6250 *13,450	*6250 *13,450	*4800 *10,100	4800 *10,100			*4150 *9,300	*4150 *9,300	6.51 20.95

* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard 0567:2007.
They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load.
Weight of all lifting accessories must be deducted from the above lifting capacities.
Lifting capacities are based on the machine standing on a firm, uniform supporting surface.
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.

320D2 FM – Log Loader HD/LC Lift Capacities

BOOM – 5.7M HD (18′8″) HD Curved Boom
STICK – R2.9B1 (9′6″)
SHOES – 600 mm (23.6″) Double Grouser
UNDERCARRIAGE – HD/LC Excavator

Lift Point Height		1.5 m/5.0 ft		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		Maximum Reach		
		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
7.5 m 25.0 ft	kg **lb**							*4700	*4700			*4000 *8,900	*4000 *8,900	6.16 19.84
6.0 m 20.0 ft	kg **lb**							*5000 *10,950	*5000 *10,950			*3750 *8,250	*3750 *8,250	7.29 23.74
4.5 m 15.0 ft	kg **lb**							*5500 *11,900	*5500 *11,900	*5150 *11,250	3950 8,400	*3700 *8,100	3550 7,800	7.99 26.12
3.0 m 10.0 ft	kg **lb**					*7950 *17,100	*7950 *17,100	*6250 *13,550	5300 11,400	*5450 *11,900	3800 8,200	*3750 *8,250	3250 7,100	8.36 27.39
1.5 m 5.0 ft	kg **lb**					*9550 *20,600	7450 16,050	*7050 *15,300	5000 10,800	5800 12,500	3700 7,950	*4000 *8,750	3100 6,850	8.44 27.7
Ground Line	kg **lb**			*6400 *14,650	*6400 *14,650	*10 450 *22,550	7150 15,350	*7650 *16,550	4850 10,400	5700 12,300	3600 7,750	*4400 *9,700	3150 6,950	8.25 27.08
–1.5 m –5.0 ft	kg **lb**	*6850 *15,250	*6850 *15,250	*10 900 *24,800	*10 900 *24,800	*10 500 *22,750	7050 15,150	7750 16,700	4750 10,200	5650 12,200	3550 7,700	*5150 *11,400	3400 7,500	7.77 25.46
–3.0 m –10.0 ft	kg **lb**	*11 600 *25,950	*11 600 *25,950	*13 850 *30,000	*13 600 *29,150	*9800 *21,200	7100 15,250	*7300 *15,750	4800 10,300			*6000 *13,250	4000 8,850	6.93 22.63
–4.5 m –15.0 ft	kg **lb**			*11 000 *23,550	*11 000 *23,550	*7950 *16,900	7300 15,800					*6050 *13,300	5500 12,350	5.58 18.01

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Lifting capacities are based on the machine standing on a firm, uniform supporting surface.
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.

320D2 FM LL – Log Loader HD/LC Lift Capacities

BOOM – 5.7 m (18′8″) Straight Boom
STICK – HD R2.9B1 (9′6″)
SHOES – 600 mm (23.6″) Double Grouser
UNDERCARRIAGE – HD/LC Excavator

Load Point Height		3.0 m/10.0 ft		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		Maximum Reach		
		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
9.0 m 30.0 ft	kg **lb**			*5850	*5850					*5400 *12,350	*5400 *12,350	4.58 14.24
7.5 m 25.0 ft	kg **lb**			*6600 *14,650	*6600 *14,650	*5900 *11,800	5550 *11,800			*4300 *9,600	*4300 *9,600	6.40 20.62
6.0 m 20.0 ft	kg **lb**			*6400 *14,050	*6400 *14,050	*6700 *14,650	5550 11,900			*3900 *8,650	3850 8,500	7.49 24.40
4.5 m 15.0 ft	kg **lb**	*7700 *16,100	*7700 *16,100	*7900 *17,000	*7900 *17,000	*7250 *15,750	5400 11,600	5950 12,800	3800 8,200	*3750 *8,250	3300 7,300	8.17 26.72
3.0 m 10.0 ft	kg **lb**			*10 150 *21,900	7750 16,750	*7700 *16,650	5150 11,050	5850 12,550	3700 8,000	*3750 *8,200	3050 6,750	8.53 27.96
1.5 m 5.0 ft	kg **lb**			*10 700 *23,150	7250 15,650	*7900 17,050	4900 10,550	5750 12,300	3600 7,750	*3850 *8,450	3000 6,550	8.61 28.26
Ground Line	kg **lb**			*10 200 *22,150	7000 15,100	*7650 *16,550	4750 10,200	5650 12,150	3550 7,600	*4100 *9,050	3050 6,700	8.43 27.65
–1.5 m –5.0 ft	kg **lb**	*8850 *20,150	*8850 *20,150	*8750 *18,950	6950 15,000	*6700 *14,500	4700 10,100	*4850 *10,150	3550 7,650	*3950 *8,650	3300 7,300	7.96 26.07
–3.0 m –10.0 ft	kg **lb**			*6250 *13,450	*6250 *13,450	*4800 *10,100	4800 *10,100			*4150 *9,300	*4150 *9,300	6.51 20.95

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Lifting capacities are based on the machine standing on a firm, uniform supporting surface.
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320D2 FM General Forestry – Feller Buncher Lift Capacities

BOOM – 5.2 m (17'1") Mass Boom
STICK – M2.4CB2 (7'10")
SHOES – 600 mm (23.6") Double Grouser

COUNTERWEIGHT SIZE – 4900 KG OR 5820 KG
UNDERCARRIAGE – HD High Forestry

Load Point Height		2.0 m/6.7 ft		3.0 m/10.0 ft		4.0 m/13.3 ft		5.0 m/16.7 ft		6.0 m/20.0 ft		7.0 m/23.3ft		Maximum Reach		
		Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	Over Front	Over Side	m ft
8.0 m 26.7 ft	kg **lb**			*9000 *19,750	*9000 *19,750	*7600	*7600							*7000 *15,800	*7000 *15,800	4.17 13.01
7.0 m 23.3 ft	kg **lb**					*8550 *18,750	*8550 *18,750	*7600 *15,600	*7600 *15,600					*6200 *13,800	*6200 *13,800	5.37 17.27
6.0 m 20.0 ft	kg **lb**			*8100 *17,900	*8100 *17,900	*8700 *19,100	*8700 *19,100	*8200 *17,900	*8200 *17,900	*6900 *13,350	6650 *13,350			*5900 *13,000	*5900 *13,000	6.19 20.09
5.0 m 16.7 ft	kg **lb**	*8600	*8600	*9650 *20,700	*9650 *20,700	*9950 *21,550	*9950 *21,550	*8450 *18,350	*8450 *18,350	*7450 *16,150	6600 14,200			*5750 *12,700	5450 12,150	6.76 22.04
4.0 m 13.3 ft	kg **lb**			*14 250 *30,650	*14 250 *30,650	*10 800 *23,300	*10 800 *23,300	*8850 *19,150	8500 18,300	*7600 *16,450	6450 13,900	*6650 *12,800	5100 11,000	*5800 *12,700	4950 11,000	7.14 23.35
3.0 m 10.0 ft	kg **lb**					*11 650 *25,100	11 400 24,550	*9250 *20,000	8200 17,650	*7750 *16,800	6300 13,550	*6650 *14,350	5050 10,850	*5950 *13,050	4700 10,300	7.36 24.13
2.0 m 6.7 ft	kg **lb**					*12 000 *26,000	10 900 23,500	*9450 *20,500	7900 17,050	*7800 *16,900	6150 13,200	*6550 *14,150	4950 10,650	*6000 *13,200	4550 10,000	7.44 24.42
1.0 m 3.3 ft	kg **lb**					*11 700 *25,350	10 600 22,800	*9350 *20,200	7700 16,600	*7650 *16,500	6000 12,950	*6300 *13,500	4850 10,500	*5700 *12,600	4550 9,950	7.39 24.24
Ground Line	kg **lb**			*8950 *20,550	*8950 *20,550	*10 700 *23,300	10 450 22,500	*8750 *19,000	7600 16,350	*7150 *15,450	5900 12,750	*5700 *12,100	4850 10,400	*5350 *11,750	4650 10,250	7.19 23.59
–1.0 m –3.3 ft	kg **lb**			*10 100 *22,150	*10 100 *22,150	*9200 *20,000	*9200 *20,000	*7700 *16,700	7550 16,250	*6250 *13,400	5900 12,700			*4850 *10,650	*4850 *10,650	6.84 22.42
–2.0 m –6.7 ft	kg **lb**					*7150 *15,500	*7150 *15,500	*6100 *13,050	*6100 *13,050	*4700 *9,750	*4700 *9,750			*4100 *9,050	*4100 *9,050	6.30 20.49

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320D Series 2 Forest Machine Standard Equipment

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

Electrical
- 115 Ampere alternator
- 4 Front working lights, cab top mounted
- 2 Front working lights, riser mounted
- 1 Left side working light, cab mounted
- 1 Rear working light, cab mounted
- Horn
- Product Link (PL 321 SR)

Operator Environment
- Purpose-built forestry cab with 8 lights and all scratch resistant polycarbonate windows
- Seat, four-way adjustable mechanical seat with adjustable armrest, retractable seatbelt, headrest, and lumbar support
- Side window with fresh air screen slide
- Integrated seat, console and joystick type controls
- Language display monitor with gauges
- Warning information
  - • Filter/fluid change information
  - • Working hour information
  - • Machine condition
  - • Error code and tool mode setting information
  - • Start up level check for hydraulic oil, engine oil and engine coolant
- Full time clock on monitor (2 weeks)
- Seat mounted joystick with extra functions for grapple
- Fixed polycarbonate skylight with retractable sun shade
- Interior lighting
- Lower and upper windshield wipers and washer fluid tank
- Positive filtered ventilation, pressurized cab with bi-level air conditioner, heater and defroster with manual control
- Forced air fan
- Behind seat storage tray with tie down points
- CB radio mounts
- 1 Fire extinguisher mount
- 1 Attachment computer control mount
- Secondary roof exit openable from inside and outside
- 2 Coat hooks
- Ashtray with lighter
- Literature holder
- Cup holder
- Neutral lever for all controls
- Travel control pedals with removable hand levers
- Washable floor mat
- Radio/CD player (12V)
- 1 Converter/2 sockets – 12V-10A power supply

Power Train
- Cat C7.1 with ACERT Technology emissions compliant with 24-volt electric starting and air intake heater
- Automatic engine speed control with one touch low idle
- Easy clean radiator compartment
- Muffler
- Two speed auto-shift travel
- Water separator in fuel line

- High Ambient cooling package 48° C (118° F)
- Electric priming pump
- Power modes (Eco and High Power)

Undercarriage
- Hydraulic track adjusters
- Track type undercarriage with grease lubricated seals
- Idler and full-length track shoe support
- 320D2 FM GF uses D5H HD Track with PPR2
- 320D2 FM LL uses 323D2 L Track

Other Standard Equipment
- Heavy-duty upper frame with catwalks, bottom guards, heavy-duty side doors
- Core hydraulic lines and controls with standard main valves on upper structures
- Door locks, cap locks and Cat one key security system
- Automatic swing parking brake
- Travel alarm
- Counterweight
- Right front corner guard

Regeneration circuits for boom and stick
High performance hydraulic return filters
Capability of installing additional valves, pumps, circuits
Cat Bio-oil capability B20

320D2 FM General Forestry Arrangement also includes:
- Forestry cab
- Hydraulic tilt 457 mm (18") riser
- High Wide Undercarriage (HW)
- Heavy-duty recoil springs
- Heavy-duty track roller frame
- Heavy-duty travel motor covers
- Heavy-duty swivel guard
- Forestry heavy-duty upper frame with catwalk
- Heavy-duty bottom guard
- Heavy-duty side doors
- Right front corner guard
- Travel alarm

320D2 FM Log Loader Arrangement also includes:
- Forestry cab
- Hydraulic tilt 812 mm (32”) riser
- Heavy-duty HEX long undercarriage (HD/LC)
- Heavy-duty recoil springs
- Heavy-duty track roller frame
- Heavy-duty travel motor covers
- Grapple rotate hydraulic arrangement
- Heavy-duty swivel guard
- Forestry heavy-duty upper frame with catwalk
- Heavy-duty bottom guard
- Standard duty side doors
- Right front corner guard
- Travel alarm

SAFETY AND SECURITY

Cat one key security system
Door and compartment locks
Signaling/warning horn
Fire wall between engine and pump compartment
Emergency engine shutoff switch
Secondary roof emergency exit
Battery disconnect switch
Cap locks on fuel and hydraulic tanks
Lockable tool box
Travel alarm
ROPS, OPS, FOPS certified forestry cab

320D Series 2 Forest Machine Optional Equipment

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

Front Linkage: For General Forestry
- Reach Boom
- Processor Boom (straight)
- Reach Stick
- Reach Stick, Harvester
- Bucket Linkage CB1 Family

Front Linkage: For Log Loader
- Curved or Straight Boom
- Reach Stick
- Bucket Linkage CB1 Family

Hydraulic Packages: For General Forestry
- Feller Buncher
- Grapple Saw
- Rotating Grapple
- Harvesting Head
- Bucket

Hydraulic Package: Log Loader
- Ground Saw Slasher
- Grapple Saw
- Rotating Grapple
- Harvester Head

Auxiliary Hydraulic Lines: For General Forestry
- Medium and High pressure line groups for Boom and Stick

Engine/Power Train
- Auto Reversing Programmable Fan
- Prefilter, air
- Cold Weather Starting Aid
- Extended Life Cooling with 50% concentration of protection –34° C (–30° F)

Undercarriage (track shoes)
- 600 mm (24 in) Double Grouser Shoes with Trap Holes
- 700 mm (28 in) Heavy-Duty Double Grouser Shoes with Trap Holes
- 700 mm (28 in) Heavy-Duty Triple Grouser Shoes with Trap Holes

Electrical
- Maintenance service lights for pump and battery compartment
- HID lights for Boom

Other Optional Equipment
- Pump, Vacuum (Hydraulic)
- Rubber Guard for Boom Foot
- Right Front Corner Fuel Tank (additional 409 L – 108 gal)
- Heavy Counterweight for General Forestry (weight added)
  - Option 1 - 1060 kg (2,337 lb)
  - Option 2 - 2120 kg (4,674 lb)
- Hood Protection Guard (for Processor and Feller Buncher configurations)
- Cab Riser: Log Loader or General Forestry
  - Hydraulic tilt 457 mm (18") riser
  - Hydraulic tilt 812 mm (32") riser

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **www.cat.com**

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