324D FM

Forest Machine

Engine		
Engine Model	Cat® C7 ACERT™	
Net Flywheel Power	140 kW	188 hp
Weights		
General Forestry (HW)	31 226 kg	68,853 lb
Log Loader (U/U)	34 300 kg	75,698 lb
Log Loader (O/U)	34 484 kg	76,037 lb

- Operating weight with front linkage, without bucket or grapple.

324D FM Forest Machine

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

Power Train

The Cat® C7 with ACERT™ Technology gives the 324D FM exceptional power and fuel efficiency unmatched in the industry. The C7 meets U.S. EPA emissions requirements. **pg. 4**

Hydraulics

Forest Machine hydraulic systems are designed to provide reliability, outstanding controllability and proven performance in various forestry applications. **pg. 5**

Operator Comfort

Spacious purpose built forestry cab with excellent sightlines to the work area with 8 lights and all scratch resistant polycarbonate windows. **pg. 6**

Versatility

Designed and purpose-built to meet diverse forestry applications, the 324D FM can help improve productivity in various forestry and millyard applications. **pg. 11**

Cat® Grapples

Cat® Log Loading Grapples combined with Cat Forest Machines make the 324D FM flexible, versatile and efficient, allowing you to maximize productivity on your forestry job. **pg. 12**

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. 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. **pg. 15**

Structures

Purpose-built carbody design uses the most advanced manufacturing processes, ensuring durability and reliability in the most rugged forestry applications. **pg. 8**

Guarding

Factory forestry cab guarding, shoe support guards and heavy-duty access doors help extend component life, reduces downtime and helps to protect your forestry machine investment. **pg. 9**

Undercarriage

Heavy Duty link assemblies provide toughness and durability. The FM track will maximize undercarriage life and minimize operating costs. **pg. 10**

Owning and Operating Costs

Proven fuel efficiency combined with easier access and extended service intervals maximize uptime, reduce operating costs and maximize productivity. **pg. 13**

Serviceability

The new FM cooling package provides easy access to all radiator cores for faster cleanouts. Regularly scheduled maintenance extends machine service life and lowers overall operating costs. **pg. 14**

Power Train

The Cat® C7 has exceptional power and fuel efficiency unmatched in the industry for consistently high performance in both forestry and millyard applications.

Cat C7 ACERT™. The Cat® C7 with ACERT™ Technology gives the 324D FM exceptional power and fuel efficiency unmatched in the industry, and provides high performance in all forestry applications. The C7 meets U.S. EPA emissions requirements.

Performance. The 324D FM is equipped with the C7 ACERT engine, which provides 12% more horsepower as compared to the previous 3126B ATAAC HEUI™ engine.

Automatic Engine Speed Control. The two-stage, one-touch control maximizes fuel efficiency and reduces sound levels.

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 ACERT features electronic controls that govern the fuel injection system. Multiple injection fuel delivery involves a high degree of precision. Precisely shaping the combustion cycle lowers combustion chamber temperatures, generating fewer emissions and optimizing fuel combustion. This translates into more work output for your fuel cost.

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 speed is calculated based on the target engine speed, coolant temperature and hydraulic oil temperature. The Cat C7 ACERT delivered a completely new layout that separates the cooling system from the engine compartment.

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 dust accumulates above a preset level.

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

Cat® hydraulics provide the power and control needed for a variety of applications.

Component Layout. The 324D 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 loss 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 controls the front linkage, swing and travel operations.

Hydraulic Cross Sensing System. The hydraulic cross sensing system improves productivity with faster implement speeds and quicker, stronger pivot turns.

Boom and Stick Regeneration Circuit. Boom and stick regeneration circuit saves 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.

Fine Swing Control. Standard fine swing control cushions start and stop for better implement control.

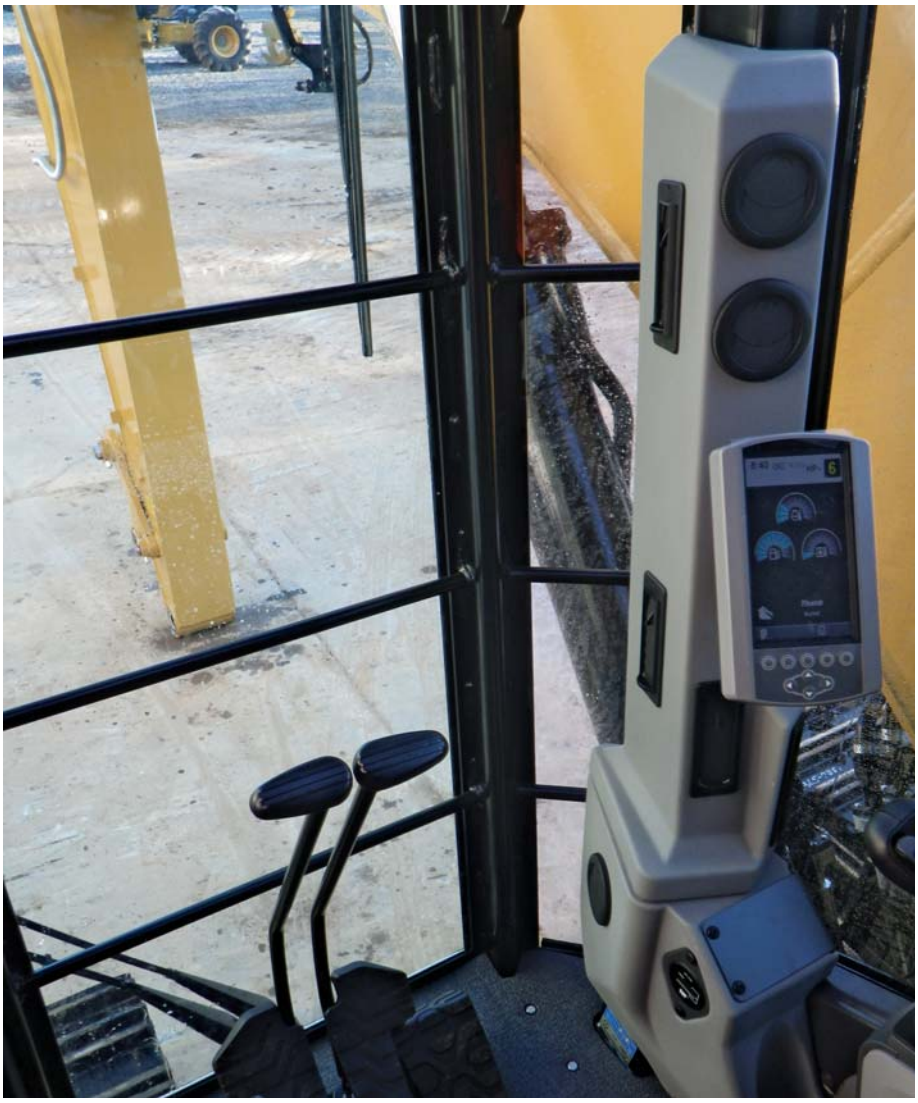
Controllability. The hydraulic system offers precise control to the 324D FM reducing operator fatigue, improving operator effectiveness and efficiency, which ultimately translates into enhanced performance.

Auxiliary Hydraulic Valve. The auxiliary valve is standard on the 324D FM. Control Circuits are available as attachments, allowing for operation of high and medium pressure tools such as grapples.

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

The purpose built forestry cab interior layout maximizes operator space, provides exceptional comfort, provides excellent sightlines and reduces operator fatigue.



Climate Control. Positive filtered ventilation, a pressurized cab with bi-level air conditioner, heater and defroster keep operator comfortable in all types of weather conditions. Cab also has a forced air fan and a large fresh air window.

Monitor. The monitor is a full color 400 × 234 pixels Liquid Crystal Display (LCD) graphic display. The monitor angle can be adjusted to minimize sun glare and has the capability of displaying information in 27 different languages.

Operator Station. The workstation is spacious, quiet and comfortable, assuring high productivity during a long work day. Controls, joysticks and an ergonomically designed seat reduces operator fatigue.

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 the 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. Air ride seat provides a variety of adjustments to suit the operator's size and weight including fore/aft, height and weight. 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. An enlarged 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/ FOGS/TOPS and CB requirements. Windshield wipers are standard equipment on the FM cab.

Structures

Purpose-built forest applications with reinforced carbody, rugged swing bearing, heavy doors and extra guarding.

Rugged main frame design maximizes durability.

- Outer frame utilizes curved side rails, which are di-formed for excellent uniformity and strength.
- 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 plates.
- Boom foot and engine mount areas are reinforced for additional strength.
- Sheet metal supporting structure is improved by integrating the mounting into the upper frame structure.

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

Carbody Structure. Wide, tall, and thick 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 long welds help reduce stresses at the carbody-to-roller frame junctions for excellent durability.
- Robot welding helps ensure consistent, high-quality welds throughout the manufacturing process.

Guarding

Cat guarding protects 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.

Stick Cylinder Guard. Optional HD stick cylinder guard provides protection from trees and debris for hydraulic lines, fittings and cylinder components.

Factory Forestry Cab. Caterpillar forestry designed and built ROPS/FOPS cab meets local guarding and regulation requirements. The right side and rear windows are made from impact resistant polycarbonate.

Right Front Corner Guard. New improved right front corner guard has added tree deflector arm providing increased protection to machine from debris and falling trees or limbs. Arm is rotatable to allow transport position.

Heavy-Duty Access Doors. Heavy-duty access doors are standard on the 324D FM and are made from 6 mm (0.24 in), high-strength, low alloy steel. Positive locking latch stays closed in forestry applications. Hinges have larger diameter pins over standard doors. The smooth door profile enhances machine appearance.

Undercarriage

Durable undercarriage absorbs stresses and provides excellent stability.

Heavy-Duty Top Rollers. Track rollers with dual supports replace standard single post mounted carrier rollers to assure superior endurance.

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.

Heavy-Duty Grease Lubricated Track. The 325 HD Track Link with 203 mm (8 inch) pitch and 9 bottom rollers are standard on the 324D FM.

1) Grease Lubricated Track.

- Extends internal bushing wear life
- Reduces noise
- Provides more usable horsepower because of decreased internal friction
- Reduces chance for frozen track joints

2) 10% Larger Bushing Diameter.

- Extends external bushing wear life

3) Greased Pin and Larger Bushing Combined.

- Extends system life
- Reduces sprocket wear because the system stays matched longer
- Improves balance in component wear life

4) 15% Increase in Link Height

- Increases link wear life

5) 36% Wider Bushing Strap

- Improves bushing-to-link retention

6) Unique Pin Retention System

- Locks the pin to the link

Versatility

A wide selection of Forest Machine configurations meet diverse forestry applications and improve your productivity.

The Cat Log Loader is Purpose Built. Purpose built cab, upper frame, covers and doors, car body, boom, stick and heel are designed to work in a variety of forestry applications. These include loading, millyard, shovel logging and large tree fell and shovel applications.

The Cat Heel-Type Loader Arrangements. The Cat heel-type loader arrangements fit a wide variety of log handling and loading applications in the woods and millyards. Heel booms are especially well-suited for use with large diameter saw logs and tree length loads.

Cat Roadbuilders. A General Forestry model can be configured as a Cat Roadbuilder and can be equipped with bucket, thumb, clamshell or clearing grapple to fit a wide range of forest road jobs.

Applications Include. Moving right-of-way logs, stumping, pioneering, stripping organic material, excavating shot rock, truck loading, back sloping, ditching, finish grading and slash piling.

The Cat 324D FM Delimber Carrier. The 324D FM General Forestry can also be configured as a delimber carrier and fit with a variety of AEM delimbers.

Cat Grapples

Cat Forest Machines combined with Cat Log Loading Grapples mean optimal performance, reliability and on-the-job productivity.

Cat 360 Degree Continuous Rotating Log Loader Grapples. Cat 360 Degree Continuous Rotating Log Loading Grapples for Forestry Machines are high capacity tools, built for endurance in high-volume logging applications. GLL grapple legs are made of high-strength alloy steel with unique leg profiles for maximum performance in picking/sorting, bunching/loading or shoveling applications. Large bunches of stems or single large logs are easily handled by the wide grapple opening 1524 mm (60 inch) GLL60B, while interlocking legs close down to 127 mm (5 inch) for picking and sorting. Cat grapples have bolt-on access panels allowing for easy serviceability and are backed by the world-class Cat dealer network.

360-Degree Continuous Rotation. High torque hydraulic motor positions the grapple precisely for rapid sorting and loading.

Hydraulic Cylinders. Heavy-duty wall construction delivers durability and maximum closing power move the maximum amount of wood per pass.

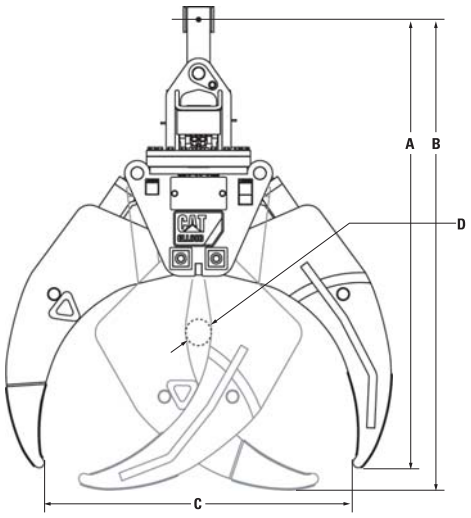
Legs. Built with high-strength alloy steel for maximum durability. Optimized profile performs equally well whether sorting, bunching or shoveling.

Pin. Induction-hardened alloy pins float, decreasing wear.

Serviceability. Bolt-on access panels protect the grapples internal components, while providing easy access. Long service intervals and infield servicing result in more uptime and lower operating costs.

GLL Specifications/Dimensions

		GLL52B	GLL55B	GLL60B
	Weight (kg/lb)	1255/2,767	1291/2,840	1344/2,965
	Width (mm/in)	1725/68	1765/70	1935/76
A	Height, open (mm/in)	2134/84	2184/86	2261/89
B	Height, closed (mm/in)	2159/85	2210/87	2286/90
C	Maximum Opening (mm/in)	1321/52	1397/55	1524/60
D	Minimum Opening (mm/in)	127/5	127/5	127/5
	Rotation, continuous	360°	360°	360°
	Rotation torque at 1,200 psi (N·m/ft lb)	1153/850	1153/850	1153/850



Matching Guide

	GLL52B	GLL55B	GLL60B
320 FM	●	○	
324 FM	●	●	
325 FM	○	●	●
330 FM	○	●	●

● Provides optimum machine match.
○ Provides acceptable machine match.

Owning and Operating Costs

Cat Forest Machines provide the best value for your forestry and millyard applications.

ACERT™ Technology Fuel Economy. Based on Caterpillar testing, the fuel economy of Cat engines with ACERT technology is 3 to 5 percent better 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.

Radiator Compartment. The radial air filter has a double layered filter core for more efficient filtration and is located in a compartment behind the cab. Easy access doors allows for easy, faster cleanout minimizing down time. Heavy-duty screens assembled on the door keep debris away from the radiator compartment, extending service intervals.

Serviceability

Simplified service and maintenance features save you time and money.

Ground Level Service. The design and layout of the 324D 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 covers top of storage box and upper structure to prevent slipping during maintenance.

Diagnostics and Monitoring. The 324D FM is equipped with S•O•S℠ 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. 324D FM service and maintenance intervals have been extended to reduce machine service time and increase machine availability.

Customer Focus

Cat dealer services help you operate longer with lower costs.

Product Support. You will find nearly all parts at our dealer parts counter. Cat dealers utilize a worldwide computer network to find in-stock parts to minimize machine down time. Save money with remanufactured components.

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

Customer Support Agreements. Cat dealers offer a variety of product support agreements, and work with customers to develop a plan the 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 certified operator training classes to help maximize the return on your investment.

Maintenance Services. Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as Scheduled Oil Sampling, Coolant Sampling and Technical Analysis help you avoid unscheduled repairs. Replacement. Repair, rebuild, or replace? Your Cat dealer can help you evaluate the cost involved so you can make the right choice.

Engine

Engine Model	Cat® C7 ACERT™	
Net Flywheel Power	140 kW	188 hp
ISO 9249	140 kW	188 hp
J1349	139 kW	186 hp
EEC 80/1269	140 kW	188 hp
Bore	110 mm	4.3 in
Stroke	127 mm	5 in
Displacement	7.2 L	440 in^3

- The 324D FM meets U.S. EPA emissions requirements.
- 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 2300 m (7500 ft) altitude.

Weights

General Forestry (HW)	31 226 kg	68,853 lb
Log Loader (U/U)	34 300 kg	75,698 lb
Log Loader (O/U)	34 484 kg	76,037 lb

- Operating weight with front linkage, without bucket or grapple.

Service Refill Capacities

Fuel Tank	520 L	137.4 gal
Fuel Tank – Optional Auxiliary Right Front	410 L	108.3 gal
Optional Counterweight with Fuel Tank	490 L	129.5 gal
Maximum Fuel with all Optional Tanks	1420 L	375.2 gal
Cooling System	30 L	7.9 gal
Engine Oil	34 L	9 gal
Swing Drive	8 L	2.1 gal
Hydraulic System (including tank)	245 L	64.7 gal
Hydraulic Tank	145 L	38 gal
Final Drive (each)	8 L	2 gal

Drive

Maximum Travel Speed	5.7 km/h	3.5 mph
Maximum Drawbar Pull	259 kN	58,226 lb

Hydraulic System

Main Implement System – Maximum Flow (2x)	220 L/min	58.1 gal/min
Max. pressure – Implements	35 000 kPa	5,075 psi
Max. pressure – Travel	35 000 kPa	5,075 psi
Max. pressure – Swing	24 500 kPa	3,553 psi
Pilot System – Maximum flow	36 L/min	9.5 gal/min
Pilot System – Maximum pressure	3920 kPa	568 psi
Boom Cylinder – Bore	135 mm	5.3 in
Boom Cylinder – Stroke	1305 mm	51.4 in
Stick Cylinder – Bore	140 mm	5.5 in
Stick Cylinder – Stroke	1660 mm	65.4 in

Log Loader Linkage

Boom Cylinder – Bore	140 mm	5.5 in
Boom Cylinder – Stroke	1185 mm	46.7 in
Stick Cylinder – Bore	170 mm	6.7 in
Stick Cylinder – Stroke	1680 mm	66.1 in
Under/Under Heel Cylinder – Bore	130 mm	5.1 in
Under/Under Heel Cylinder – Stroke	1156 mm	45.5 in
Over/Under Heel Cylinder – Bore	150 mm	5.9 in
Over/Under Heel Cylinder – Stroke	1470 mm	57.9 in

Swing Mechanism

Swing Torque – General Forestry	73.4 kN·m	54,147 lb ft
Swing Speed – General Forestry	10 rpm	

Excavator Linkage

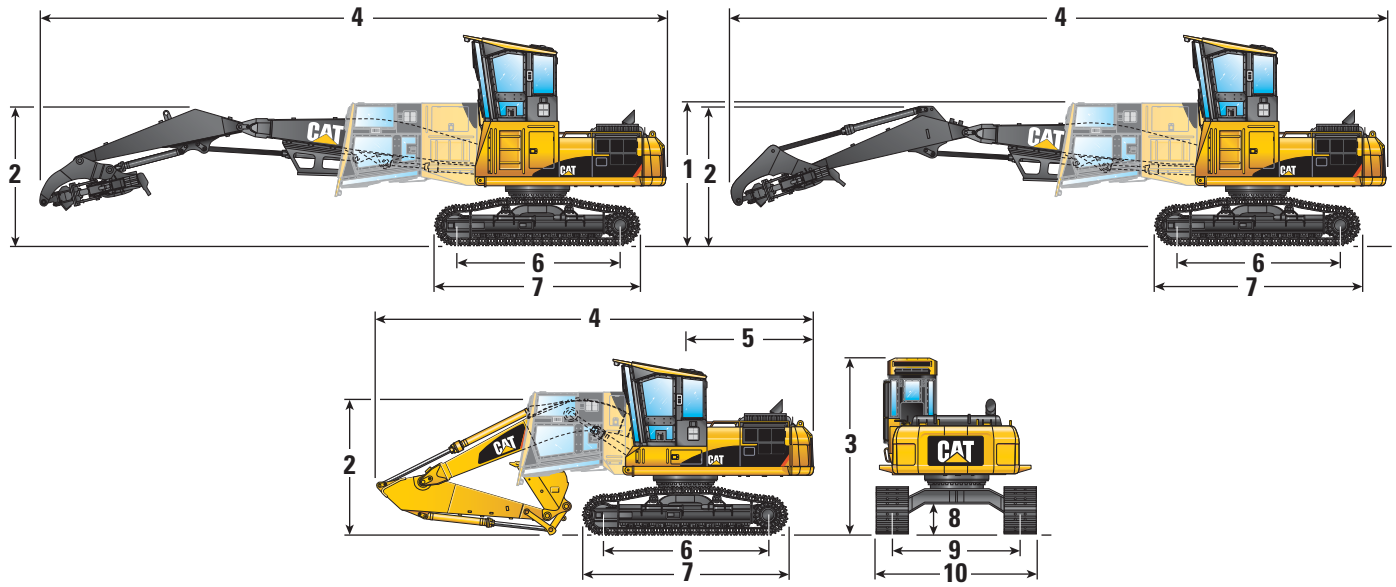
CB1 Family Bucket Cylinder – Bore	130 mm	5.1 in
CB1 Family Bucket Cylinder – Stroke	1156 mm	45.5 in

Standards

Brakes	SAE J1026 APR90
Cab ROPS/FOGS/OPS/TOPS/FOPS	SAE J1356 FEB88 SAE J1084/ISO 8084/ ROPS: ISO 3471:1997 Table 1, Section 1/ OR-OSHA 437-007-0775/ WCB G602, G603, G604, G608

Dimensions

All dimensions are approximate.



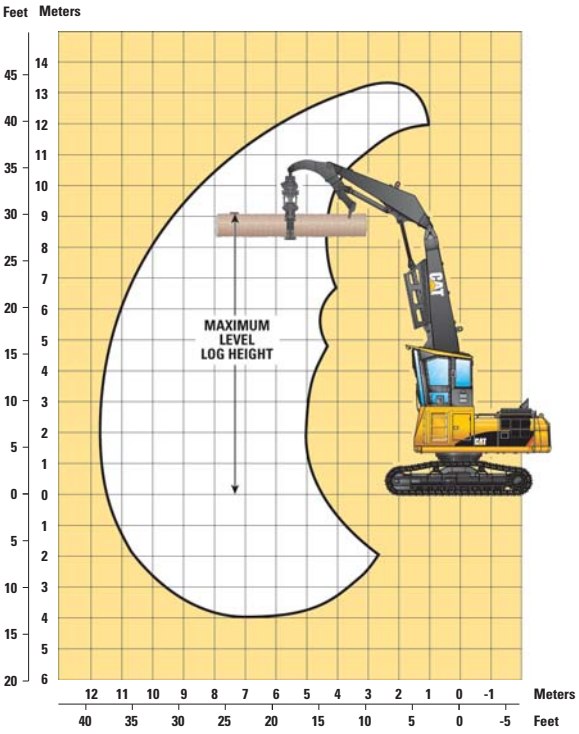
324D FM General Forestry		HW GF
1	Shipping height. (All risers with cab tilted)	3310 mm (10'10")
2	Boom height	3170 mm (10'5")
3	Overall height	4020 mm (13'2")
4	Shipping length	9880 mm (32'5")
5	Tail swing radius	2940 mm (9'8")
6	Length to centers of rollers	3780 mm (12'5")
7	Track length	4670 mm (15'4")
8	Ground clearance	710 mm (2'4")
9	Track gauge	2920 mm (9'7")
10	Transport width with 700 mm (27.5") shoes (DG)	3620 mm (11'11")

324D FM Log Loaders		Under/Under	Over/Under
1	Shipping height. (All risers with cab tilted)	3310 mm (10'10")	3310 mm (10'10")
2	Boom height	2780 mm (9'1")	2760 mm (9'1")
3	Overall height	4790 mm (15'9")	4790 mm (15'9")
4	Shipping length	14 080 mm (46'2")	14 990 mm (49'2")
5	Tail swing radius	2940 mm (9'8")	2940 mm (9'8")
6	Length to centers of rollers	3780 mm (12'5")	3780 mm (12'5")
7	Track length	4670 mm (15'4")	4670 mm (15'4")
8	Ground clearance	710 mm (2'4")	710 mm (2'4")
9	Track gauge	2920 mm (9'7")	2920 mm (9'7")
10	Transport width with 700 mm (27.5") shoes (DG)	3620 mm (11'11")	3620 mm (11'11")

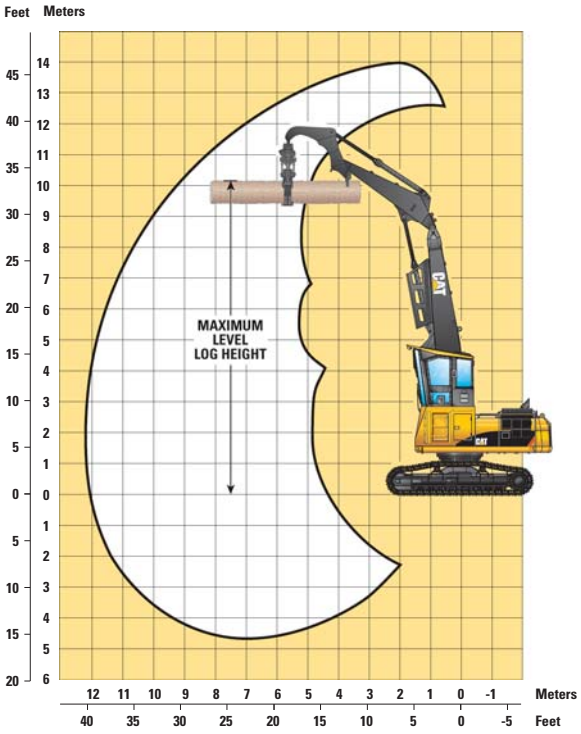
324D FM Working Ranges

Heel Boom (Under/Under, Over/Under), and Reach ranges

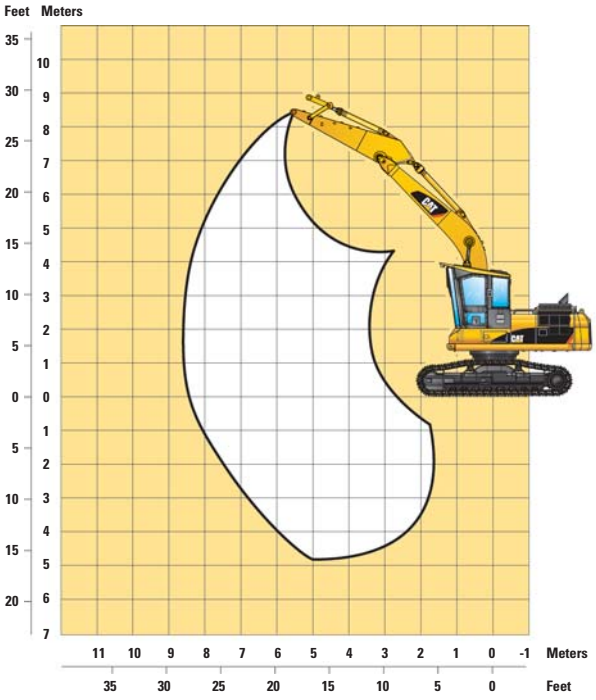
Heel Boom (Under/Under)



Heel Boom (Over/Under)



General Forestry HW U/C, 5.9 m (19'4") Boom with 2.95S Stick



324D FM LL Heel Boom Under/Under Lift Capacities

CONFIGURATION – 11.6 m (38') Boom/Stick/Heel Linkage, Heavy Counterweight

SHOES – 700 mm (28") Double Grouser

Load Point Height		4.5 m/15.0 ft		6.0 m/20.0 ft		7.5 m/25.0 ft		9.0 m/30.0 ft		10.5 m/35.0 ft		Load at 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**
10.5 m **35.0 ft**	kg **lb**			*8850 ***19,400***	*8850 ***19,400***	*7850 ***17,250***	6800 **14,350**					*7600 ***17,100***	5900 **13,450**	8.03 **25.73**
9.0 m **30.0 ft**	kg **lb**			***18,650***	***18,650***	*7500 ***16,400***	7000 **14,950**	6550 **13,900**	5000 **10,550**			6000 **13,500**	4550 **10,200**	9.37 **30.38**
7.5 m **25.0 ft**	kg **lb**			*8600 ***18,750***	*8600 ***18,750***	*7500 ***16,350***	7000 **15,050**	*6600 **14,200**	5100 **10,850**			5100 **11,400**	3850 **8,550**	10.32 **33.65**
6.0 m **20.0 ft**	kg **lb**			*9050 ***19,600***	*9050 ***19,600***	*7700 ***16,700***	6900 **14,800**	6600 **14,150**	5050 **10,800**	5050 **10,750**	3800 **8,050**	4600 **10,150**	3450 **7,600**	10.98 **35.93**
4.5 m **15.0 ft**	kg **lb**	*10 500 ***23,500***	*10 500 ***23,500***	*9700 ***21,000***	9600 **20,650**	*8000 ***17,350***	6700 **14,350**	6500 **13,950**	4950 **10,600**	5000 **10,700**	3750 **8,050**	4300 **9,500**	3200 **7,050**	11.41 **37.39**
3.0 m **10.0 ft**	kg **lb**			*10 400 ***22,450***	9100 **19,550**	*8300 ***17,900***	6400 **13,750**	6350 **13,600**	4800 **10,250**	4950 **10,600**	3700 **7,900**	*4100 ***9,100***	3100 **6,800**	11.63 **38.14**
1.5 m **5.0 ft**	kg **lb**			*10 750 ***23,250***	8600 **18,450**	8150 **17,550**	6150 **13,150**	6200 **13,250**	4650 **9,950**	4850 **10,450**	3650 **7,750**	*3550 ***7,850***	3050 **6,750**	11.65 **38.22**
Ground Line	kg **lb**	*10 200 ***24,650***	*10 200 ***24,650***	*10 450 ***22,550***	8200 **17,600**	7950 **17,050**	5900 **12,700**	6050 **13,000**	4500 **9,700**	*4700 ***9,850***	3550 **7,650**	*2900 ***6,350***	*2900 ***6,350***	11.47 **37.63**
–1.5 m **–5.0 ft**	kg **lb**	*11 050 ***25,900***	*11 050 ***25,900***	*9300 ***20,100***	7950 **17,150**	*7200 ***15,450***	5750 **12,400**	*5450 ***11,600***	4450 **9,550**	*3550 ***7,100***	3550 **7,650**	*2550 ***5,550***	*2550 ***5,550***	10..97 **35.96**
–3.0 m **–10.0 ft**	kg **lb**	*9100 ***19,600***	*9100 ***19,600***	*7300 ***15,700***	*7300 ***15,700***	*5650 **11,950***	*5650 **11,950***	*3950 ***8,100***	*3950 ***8,100***			*3000 ***6,650***	*3000 ***6,650***	9.69 **31.57**

* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

Weight of all lifting accessories must be deducted from the above lifting capacities.

324D FM LL Heel Boom Over/Under Lift Capacities

CONFIGURATION – 12.2 m (40') Boom/Stick/Heel Linkage, Heavy Counterweight

SHOES – 700 mm (28") Double Grouser

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		9.0 m/30.0 ft		10.5 m/35.0 ft		12.0 m/40.0 ft		Load at 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	Over Front	Over Side	**m ft**
10.5 m **35.0 ft**	kg **lb**							*7450 ***16,350***	7150 **15,150**							6700 ***15,150***	5100 **11,600**	8.86 **28.51**
9.0 m **30.0 ft**	kg **lb**							*7200 ***15,750***	*7200 ***15,550***	*6500 ***14,150***	5250 **11,100**					5400 **12,100**	4100 **9,150**	10.09 **32.76**
7.5 m **25.0 ft**	kg **lb**							*7250 ***15,750***	*7250 ***15,550***	*6450 ***14,000***	5250 **11,250**	5150 **10,950**	3900 **8,300**			4700 **10,400**	3500 **7,800**	10.98 **35.81**
6.0 m **20.0 ft**	kg **lb**							*7450 ***16,150***	7100 **15,250**	*6500 ***14,100***	5200 **11,100**	5150 **11,050**	3900 **8,350**			4250 **9,400**	3200 **7,000**	11.60 **37.95**
4.5 m **15.0 ft**	kg **lb**					*9300 ***20,100***	*9300 ***20,100***	*7750 ***16,850***	6850 **14,700**	6600 **14,200**	5050 **10,800**	5100 **10,900**	3850 **8,250**	4000	2950	4000 **8,800**	2950 **6,550**	12.01 **39.34**
3.0 m **10.0 ft**	kg **lb**					*10 050 ***21,700***	9300 **20,000**	*8100 ***17,550***	6550 **13,800**	6400 **13,800**	4850 **10,450**	5000 **10,700**	3750 **8,050**	4000 **8,550**	2950 **6,300**	*3850 **8,500***	2850 **6,300**	12.21 **40.06**
1.5 m **5.0 ft**	kg **lb**					*10 550 ***22,800***	8700 **18,700**	8250 **17,700**	6200 **13,300**	6200 **13,350**	4650 **10,000**	4900 **10,500**	3650 **7,800**	*3900 ***7,700***	2950 **6,250**	*3350 ***7,400***	2850 **6,250**	12.23 **40.13**
Ground Line	kg **lb**			*13 000 ***31,050***	12 650 **27,150**	*10 500 ***22,700***	8200 **17,600**	7950 **17,050**	5900 **12,700**	6050 **13,000**	4500 **9,650**	4800 **10,300**	3550 **7,650**	*3000	2900	*2750 ***6,050***	*2750 ***6,050***	12.06 **39.57**
–1.5 m **–5.0 ft**	kg **lb**			*11 500 ***26,900***	*11 500 **26,100***	*9650 ***20,900***	7850 **16,900**	*7450 ***16,100***	5700 **12,250**	*5800 ***12,400***	4400 **9,450**	*4250 ***8,800***	3500 **7,550**			*2300 ***5,050***	*2300 ***5,050***	11.63 **38.13**
–3.0 m **–10.0 ft**	kg **lb**	*6350 ***14,500***	*6350 ***14,500***	*10 250 ***22,100***	*10 250 ***22,100***	*8000 ***17,200***	7750 **16,650**	*6200 ***13,250***	5600 **12,100**	*4600 ***9,650***	4350 **9,350**	*2750	*2750			*2600 ***5,750***	*2600 ***5,750***	10.57 **34.51**
–4.5 m **–15.0 ft**	kg **lb**					*5500 ***11,600***	*5500 ***11,600***	*4150	*4150							*3800 ***8,850***	*3800 ***8,850***	7.88 **24.65**

* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

Weight of all lifting accessories must be deducted from the above lifting capacities.

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

324D FM GF Reach Boom Lift Capacities

CONFIGURATION – 5.9 m (19'4") Boom, 2.95 m (9'8") Stick, Standard Counterweight

SHOES – 700 mm (28") Double Grouser

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		Load at Maximum Reach		
		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**					*6650 ***14,700***	*6650 ***14,700***			*5450 ***12,050***	*5450 ***12,050***	6.67 **21.56**
6.0 m **20.0 ft**	kg **lb**					*6900 ***15,050***	*6900 ***15,050***	*5950 ***13,100***	5950 **13,100**	*5250 ***11,600***	*5250 ***11,600***	7.67 **24.99**
4.5 m **15.0 ft**	kg **lb**			*9200 ***19,800***	*9200 ***19,800***	*7750 ***16,800***	*7750 ***16,800***	*7000 ***15,350***	*7000 ***15,350***	*5300 ***11,650***	*5300 ***11,650***	8.27 **27.06**
3.0 m **10.0 ft**	kg **lb**			*11 650 ***25,000***	*11 650 ***25,000***	*8850 ***19,200***	*8850 ***19,200***	*7550 ***16,400***	6950 **14,950**	*5550 ***12,150***	*5550 ***12,150***	8.57 **28.10**
1.5 m **5.0 ft**	kg **lb**			*13 550 ***29,250***	*13 550 ***29,250***	*9900 ***21,450***	9200 **19,850**	*8100 ***17,550***	6800 **14,650**	*6000 ***13,150***	5650 **12,450**	8.60 **28.20**
Ground Line	kg **lb**	*6300 ***14,400***	*6300 ***14,400***	*14 300 ***31,000***	13 600 **29,250**	*10 500 ***22,800***	9000 **19,400**	*8400 ***18,200***	6700 **14,400**	*6750 ***14,850***	5800 **12,800**	8.35 **27.40**
–1.5 m **–5.0 ft**	kg **lb**	*11 550 ***26,150***	*11 550 ***26,150***	*14 050 ***30,500***	13 550 **29,150**	*10 550 ***22,800***	8950 **19,250**	8250 **17,800**	6650 **14,350**	*7800 ***17,200***	6350 **13,950**	7.81 **25.58**
–3.0 m **–10.0 ft**	kg **lb**	*17 750 ***38,400***	*17 750 ***38,400***	*12 850 ***27,800***	*12 850 ***27,800***	*9700 ***20,850***	9000 **19,400**			*8100 ***17,800***	7500 **16,600**	6.90 **22.52**
–4.5 m **–15.0 ft**	kg **lb**			*10 100 ***21, 500***	*10 100 ***21, 500***					*8100 ***17,800***	*8100 ***17,800***	5.44 **17.55**

* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

Weight of all lifting accessories must be deducted from the above lifting capacities.

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

Forestry Grapples

Specification	GLL52B	GLL55B	GLL60B
Part #	271-1533	271-1534	271-1535
For use with	320C FM, 324D FM	324D FM, 325D FM	325D FM, 330D FM
Rotation	Continuous	Continuous	Continuous
Rotation torque	1153 N·m (850 ft-lb)	1153 N·m (850 ft-lb)	1153 N·m (850 ft-lb)
Log volume (tip to tip)	0.41 m^2 (4.5 ft^2)	0.4 m^2 (4.3 ft^2)	0.51 m^2 (5.5 ft^2)
Max. opening	1321 mm (52")	1397 mm (55")	1524 mm (60")
Min. opening	126 mm (5")	126 mm (5")	126 mm (5")
Weight	1255 kg (2,767 lb)	1291 kg (2,840 lb)	1344 kg (2,965 lb)
Width	673 mm (26.5")	673 mm (26.5")	673 mm (26.5")
Height, open	2134 mm (84")	2184 mm (86")	2261 mm (89")

Standard Equipment

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

Electrical
- 80 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

Operator Environment
- Purpose built forestry cab with 8 lights and all scratch resistant polycarbonate windows
- Seat, Air suspension seat with adjustable armrest, retractable seat belt, headrest and lumbar support
- 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
- Positive filtered ventilation, pressurized cab with bi-level air conditioner, heater and defroster with manual control
- Forced air fan
- Left side fresh air window with screen
- Behind seat storage tray with tie down points
- 2 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 with ACERT™ Technology U.S. EPA emissions compliant with 24-volt electric starting and air intake heater
- Automatic engine speed control with one touch low idle
- Easy clean swing-out condenser
- Easy clean swing out radiator
- Muffler
- Two speed auto-shift travel
- Water separator in fuel line

Undercarriage
- Hydraulic track adjusters
- Track type undercarriage with grease lubricated seals
- Idler and full-length track shoe support

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 with lifting eye
- Right front corner guard

324D FM General Forestry Arrangement also includes:
- Forestry cab, hydraulic tilt 0.46 m (18 inch) riser
- High-wide undercarriage
- 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

324D FM Log Loader Arrangement also includes:
- Forestry cab
- Hydraulic tilt 1.2 m (48 inch) riser
- High-wide undercarriage
- Heavy-Duty recoil springs
- Heavy-Duty track roller frame
- Heavy-Duty travel motor covers
- Straight travel third pedal
- Grapple/rotator hydraulic arrangement
- 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

Optional Equipment

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

Front Linkage: For General Forestry
- Reach Boom 5.9 m (19 ft 4 in)
- Reach Stick 2.95 m (9 ft 8 in)
- Bucket Linkage CB1 Family
- Boom lowering Control Device

Front Linkage: For Log Loader
- Over/Under Boom/Stick/Heel linkage 12.2 m (40 ft 0 in)
- Under/Under Boom/Stick/Heel linkage 11.6 m (38 ft 0 in)
- Stick Cylinder Guard

Grapples: For Log Loader
- GLL52B
- GLL55B
- GLL60B

Hydraulic Arrangements: For General Forestry
- Rotating Grapple (Standard on Log Loader)
- Harvesting Head
- Thumb

Auxiliary Hydraulic Lines: For General Forestry
- Auxiliary Lines HP & MP, Reach Boom
- Auxiliary Lines HP & MP, Reach Stick

Engine/Power Train
- Prefilter, air
- Cold Weather Staring Aid
- Extended Life Cooling with 50% concentration of protection –34° C (–30º 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
- 800 mm (32 in) Heavy-Duty Triple Grouser Shoes with Trap Holes

Electrical
- Product Link (PL 321 SR)

General Optional Equipment
- Auxiliary Pump Driver (for additional pump)
- Right Front Corner Fuel Tank (additional 409 L – 108 gal)
- Counterweight with Fuel Tank Adds (492 L – 130 gal)
- Heavy Counterweight (additional 780 kg – 1,720 lb). For General Forestry (Standard on Log Loader). Less off cab platform for use with custom AEM supplier cabs (for Log Loader only).

Notes

324D FM Forest Machine

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

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

AEHQ5915-03 (01-12)

Replaces AEHQ5915-02