### Engine

<table>
<thead>
<tr>
<th>Engine model</th>
<th>Cat® C6.4 ACERT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Flywheel Power</td>
<td>117 kW</td>
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</table>

### Operating Weight (w/ front linkage, w/out bucket or grapple):

<table>
<thead>
<tr>
<th>Application</th>
<th>Weight (kg)</th>
<th>Weight (lb)</th>
</tr>
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<tbody>
<tr>
<td>General Forestry (HW)</td>
<td>26 900</td>
<td>59,315</td>
</tr>
<tr>
<td>Log Loader (U/U)</td>
<td>30 300</td>
<td>66,812</td>
</tr>
<tr>
<td>Log Loader (HD/LC)</td>
<td>25 500</td>
<td>56,228</td>
</tr>
</tbody>
</table>
## Power Train
The Cat® C6.4 with ACERT™ Technology gives the 320D FM exceptional power and fuel efficiency unmatched in the industry. The C6.4 meets U.S. EPA Tier 3 emissions requirements. [pg. 4]

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

## Undercarriage
Heavy Duty link assemblies provide toughness and durability. The FM track will maximize undercarriage life and minimize operating costs. [pg. 9]

## 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. 8]

## 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. Certified FOPS to ISO 8084 and SAE 1084, certified OPS to ISO 8083 and SAE J231, certified FOGS to ISO 10262 and SAE J1356, certified TOPS to OR-OSHA code 437-007-0775 TOPS and WCBG602/G603/G604/G608 compliant. [pg. 6]
Versatility
Designed and purpose-built to meet diverse forestry applications, the 320D FM can help improve productivity in various forestry and millyard applications. pg. 9

Caterpillar Grapples
Cat Log Loading Grapples combined with Cat Forest Machines make the 320D FM flexible, versatile and efficient enough, allowing you to maximize productivity on your forestry job. pg. 10

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. 11

Owning and Operating Costs
Proven fuel efficiency combined with easier access and extended service intervals maximize uptime, reduce operating costs and maximize productivity. pg. 11

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. 12
The Cat® C6.4 has exceptional power and fuel efficiency unmatched in the industry for consistently high performance in both forestry and millyard applications.

**Cat C6.4 ACERT.** The Cat® C6.4 with ACERT™ Technology gives the 320D FM exceptional power and fuel efficiency unmatched in the industry. The C6.4 meets U.S. EPA Tier 3 emissions requirements. The forestry designed hydraulics give the 320D FM exceptional power, efficiency and controllability unequaled in the industry for consistently high performance in all forestry applications.

**Performance.** The 320D FM is equipped with the C6.4 ACERT engine, which provides 7% more horsepower as compared to the Cat 3066 T 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 C6.4 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, hydraulic oil temperature and actual fan speed. The Cat C6.4 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.
**Component Layout.** The 320D 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 320D 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 320D 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.

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.
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 twenty-seven different languages.

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.

Gage 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. 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. Redesigned 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 FOPS/OPS/FOGS/TOPS and CB requirements.
**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**

*Caterpillar 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.

- **Factory Forestry Cab.** Caterpillar factory forestry designed and built FOPS cab has options for windshield guard and window guards to meet local guarding requirements. The right side and rear windows are made from impact-resistant polycarbonate.

**Heavy-Duty Access Doors.** Heavy-duty access doors are standard on the 320D 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 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 8 inch pitch and 8 bottom rollers is standard on the 320D 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 Caterpillar Log Loader is Purpose Built. The Caterpillar log loader is purpose built for forest applications. Completely assembled, heel-type log loaders (including grapple) are available from the factory.

The Caterpillar Heel-Type Loader Arrangements. The Caterpillar heelttype 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 sawlogs and tree length loads.

Caterpillar Roadbuilders. Caterpillar Roadbuilders can be equipped with buckets, thumbs, clamshells and clearing grapples 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 Caterpillar 320D FM Delimber Carrier. The Caterpillar delimber carrier can be fit with a variety of AEM delimiters.
Caterpillar Grapples

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

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 (60”/1524 mm), while interlocking legs close down to 5”/127 mm for picking and sorting. Cat grapples have bolt-on access panels allowing for easy serviceability and are backed by the world-class Caterpillar 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.

Pins.

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.

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**G. L. L Specifications/Dimensions**

<table>
<thead>
<tr>
<th></th>
<th>GLL52B</th>
<th>GLL55B</th>
<th>GLL60B</th>
</tr>
</thead>
<tbody>
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<td>1291/2,840</td>
<td>1344/2,965</td>
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<tr>
<td>A Height, open (mm/in)</td>
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<td>2184/86</td>
<td>2261/89</td>
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<tr>
<td>B Height, closed (mm/in)</td>
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<td>C Maximum Opening (mm/in)</td>
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<td>1397/55</td>
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<td>D Minimum Opening (mm/in)</td>
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<td>360°</td>
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<td>Rotation torque at 1,200 psi (N-m/ft lb)</td>
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**Matching Guide**

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<th>GLL52B</th>
<th>GLL55B</th>
<th>GLL60B</th>
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<td></td>
</tr>
<tr>
<td>324 FM</td>
<td>●</td>
<td>●</td>
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</tr>
<tr>
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</tr>
<tr>
<td>330 FM</td>
<td>○</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

● Provides optimum machine match.
○ Provides acceptable machine match.
Owning and Operating Costs

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

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**Ground Level Service.** The design and layout of the 320D 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.

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**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 screen filters assembled on the door keep debris away from the radiator compartment, extending service intervals.

**Anti-Skid Plate.** Anti-skid plate covers top of storage box and upper structure to prevent slipping during maintenance.

**Diagnostics and Monitoring.** The 320D FM is equipped with S•O•SSM 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.** 320D FM service and maintenance intervals have been extended to reduce machine service time and increase machine availability.
Customer Focus

Caterpillar 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.

SAFETY.CAT.COM™.
Engine

Engine Model Cat® C6.4 ACERT™
Net Flywheel Power 117 kW 157 hp
ISO 9249 110 kW 147 hp
J1349 110 kW 147 hp
EEC 80/1269 110 kW 147 hp
Bore 102 mm 4.02 in
Stroke 130 mm 5.12 in
Displacement 6.4 L 390 in³

- The 320D FM meets U.S. EPA Tier 3 and EU Stage IIIa 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 (7,500 ft) altitude.

Weights

General Forestry (HD/LC) 25 500 kg 56,228 lb
General Forestry (HW) 26 900 kg 59,315 lb
Log Loader (U/U) 30 300 kg 66,812 lb

- Operating weight with front linkage, with 18 inch riser and without bucket.
- Operating weight with front linkage, with 48 inch riser and without bucket.

Service Refill Capacities

Fuel Tank 410 L 108.3 gal
Fuel Tank – Optional Auxiliary 410 L 108.3 gal
Right Front
Maximum Fuel with all Optional Tanks 820 L 216.6 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 125 L 33.0 gal
Final Drive (each) – (HD/LC) 10 L 2.6 gal
Final Drive (each) – (HW) 13 L 3.4 gal

Standards

Brakes SAE J1026 APR90

Hydraulic System

Main Implement System – Maximum Flow (2x) 205 L/min 54.2 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 41 L/min 10.8 gal/min
Pilot System – Maximum pressure 4,120 kPa 600 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 1500 mm 59.3 in

Excavator 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 1500 mm 59.3 in
B1 Family Bucket Cylinder – Bore 120 mm 4.7 in
B1 Family Bucket Cylinder – Stroke 1100 mm 43.3 in

Log Loader Linkage

Boom Cylinder – Bore 140 mm 5.5 in
Boom Cylinder – Stroke 1160 mm 45.7 in
Stick Cylinder – Bore 150 mm 5.9 in
Stick Cylinder – Stroke 1470 mm 57.9 in
Under/Under Heel Cylinder – Bore 130 mm 5.1 in
Under/Under Heel Cylinder – Stroke 1156 mm 45.5 in

Drive

Maximum Travel Speed (HD/LC) 5.3 km/h 3.3 mph
Maximum Drawbar Pull (HD/LC) 188 kN 46,300 lb
Maximum Travel Speed (HW) 4.3 km/h 2.6 mph
Maximum Drawbar Pull (HW) 248 kN 55,700 lb

Swing Mechanism

Swing Torque 61.8 kN·m 45,611 lb ft
Swing Speed 11.5 rpm 11.5 rpm
### Dimensions

All dimensions are approximate.

#### 320D FM General Forestry

<table>
<thead>
<tr>
<th></th>
<th>HD/LC*</th>
<th>HW**</th>
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<tbody>
<tr>
<td>1</td>
<td>3000 mm (9'10&quot;)</td>
<td>3185 mm (10'5&quot;)</td>
</tr>
<tr>
<td>2</td>
<td>3040 mm (10'0&quot;)</td>
<td>3060 mm (10'0&quot;)</td>
</tr>
<tr>
<td>3</td>
<td>3713 mm (12'2&quot;)</td>
<td>4657 mm (15'3&quot;)</td>
</tr>
<tr>
<td>4</td>
<td>9460 mm (31'0&quot;)</td>
<td>9410 mm (30'10&quot;)</td>
</tr>
<tr>
<td>5</td>
<td>2774 mm (9'1&quot;)</td>
<td>2774 mm (9'1&quot;)</td>
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<tr>
<td>6</td>
<td>3650 mm (12'0&quot;)</td>
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</tr>
<tr>
<td>7</td>
<td>4480 mm (14'8&quot;)</td>
<td>4555 mm (14'11&quot;)</td>
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<tr>
<td>8</td>
<td>475 mm (1'7&quot;)</td>
<td>650 mm (2'2&quot;)</td>
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<td>9</td>
<td>2380 mm (7'10&quot;)</td>
<td>2590 mm (8'6&quot;)</td>
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<tr>
<td>10</td>
<td>3080 mm (10'1&quot;)</td>
<td>3290 mm (10'10&quot;)</td>
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#### 320D FM Log Loaders

<table>
<thead>
<tr>
<th></th>
<th>Under/Under</th>
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<tbody>
<tr>
<td>1</td>
<td>3185 mm (10'5&quot;)</td>
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<tr>
<td>2</td>
<td>2980 mm (9'9&quot;)</td>
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<tr>
<td>3</td>
<td>4657 mm (15'3&quot;)</td>
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<tr>
<td>4</td>
<td>13 620 mm (44'8&quot;)</td>
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<td>5</td>
<td>2774 mm (9'1&quot;)</td>
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<td>8</td>
<td>650 mm (2'2&quot;)</td>
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<td>9</td>
<td>2590 mm (8'6&quot;)</td>
</tr>
<tr>
<td>10</td>
<td>3290 mm (10'10&quot;)</td>
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</table>

*HD/LC = Heavy Duty/Long Undercarriage
**HW = High Wide Undercarriage
320D FM Working Ranges
General Forestry (HD/LC and HW), Heel Boom (Under/Under) reach ranges.

General Forestry
HD/LC 5.9 m (19'4") Boom
with R2.9B1 (9'6") Stick

General Forestry
HW 5.9 m (19'4") Boom
with R2.9B1 (9'6") Stick

Heel Boom
(Under/Under)
### 320D FM General Forestry – Reach Boom Lift Capacities

**BOOM** – 5.9 m (19’4")

**STICK** – R2.9B1 (9’6")

**SHOES** – 700 mm (28") Double Grouser

**UNDERCARRIAGE** – HD/LC

<table>
<thead>
<tr>
<th>Lift Point Height</th>
<th>1.5 m/5.0 ft</th>
<th>3.0 m/10.0 ft</th>
<th>4.5 m/15.0 ft</th>
<th>6.0 m/20.0 ft</th>
<th>7.5 m/25.0 ft</th>
<th>Maximum Reach</th>
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<tbody>
<tr>
<td>Over Front</td>
<td>Over Side</td>
<td>Over Front</td>
<td>Over Side</td>
<td>Over Front</td>
<td>Over Side</td>
<td>Over Front</td>
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<tr>
<td>7.5 m</td>
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<td></td>
<td></td>
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<tr>
<td>25 ft</td>
<td>*4900</td>
<td>*4600</td>
<td>*11,600</td>
<td>*11,600</td>
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<td>*680</td>
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</table>

* 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.

### 320D FM General Forestry – High Wide Lift Capacities

**BOOM** – 5.9 m (19’4")

**STICK** – R2.9B1 (9’6")

**SHOES** – 700 mm (28") Double Grouser

**UNDERCARRIAGE** – High Wide

<table>
<thead>
<tr>
<th>Lift Point Height</th>
<th>1.5 m/5.0 ft</th>
<th>3.0 m/10.0 ft</th>
<th>4.5 m/15.0 ft</th>
<th>6.0 m/20.0 ft</th>
<th>7.5 m/25.0 ft</th>
<th>Maximum Reach</th>
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<tbody>
<tr>
<td>Over Front</td>
<td>Over Side</td>
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<td>Over Side</td>
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<td>5 ft</td>
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<td>*700</td>
<td>*680</td>
<td>*16,800</td>
<td>*16,800</td>
<td>*13,300</td>
</tr>
</tbody>
</table>

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Always refer to the appropriate Operation and Maintenance Manual for specific product information.
### 320D FM Specifications

**BOOM – 5.94 m (19’6”) – Under/Under Log Loader**

**STICK – 3.51 m (11’6”) – Under/Under Log Loader**

**SHOES – 700 mm (28”) Double Grouser**

| Lift 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 | Maximum Reach | m
<table>
<thead>
<tr>
<th></th>
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<tbody>
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<td>8920</td>
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<td>4950</td>
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<td>3710</td>
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<td>7200</td>
<td>8920</td>
<td>9350</td>
<td>4950</td>
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<td>8920</td>
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<td>8920</td>
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<td>32,650</td>
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</tr>
</tbody>
</table>

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

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### Forestry Grapples

<table>
<thead>
<tr>
<th>Specification</th>
<th>GLL 52</th>
<th>GLL 55</th>
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<tbody>
<tr>
<td>Part #</td>
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<td>271-1534</td>
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<tr>
<td>For use with</td>
<td>320D FM, 324D FM</td>
<td>320D FM, 324D FM, 325D FM</td>
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<tr>
<td>Rotation</td>
<td>Continuous</td>
<td>Continuous</td>
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<tr>
<td>Rotation torque</td>
<td>1153 N-m (850 ft-lb)</td>
<td>1153 N-m (850 ft-lb)</td>
</tr>
<tr>
<td>Max. Opening</td>
<td>1321 mm (52&quot;)</td>
<td>1397 mm (55&quot;)</td>
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<tr>
<td>Min. Opening</td>
<td>126 mm (5&quot;)</td>
<td>126 mm (5&quot;)</td>
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<tr>
<td>Weight</td>
<td>1255 kg (2,767 lb)</td>
<td>1291 kg (2,840 lb)</td>
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<tr>
<td>Width</td>
<td>673 mm (26.5&quot;)</td>
<td>673 mm (26.5&quot;)</td>
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<tr>
<td>Height, open</td>
<td>2134 mm (84&quot;)</td>
<td>2184 mm (86&quot;)</td>
</tr>
</tbody>
</table>
Standard Equipment

Standard equipment may vary. Consult your Caterpillar 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, four-way adjustable suspension seat with adjustable armrest, retractable seatbelt, 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
- 2 post mounted fresh air vents
- 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 C6.4 with ACERT™ Technology U.S. EPA Tier 3 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
- 700 mm (28”) Double grouser shoes with trap holes

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

320D FM General Forestry Arrangement also includes:
- Forestry cab, hydraulic tilt 457 mm (18”) riser
- High-wide undercarriage or heavy-duty long undercarriage
- Heavy-Duty recoil springs
- Heavy-Duty track roller frame
- Heavy-Duty travel motor covers
- Straight travel third pedal
- 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

320D FM Log Loader Arrangement also includes:
- Forestry cab
- Hydraulic tilt 1219 mm (48”) 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 Caterpillar dealer for details.

5.7 m (18'8") Reach Boom for General Forestry
2.9 m (9'6") B1 Stick for General Forestry
Air suspension seat
Auto-reverse fan
Auxiliary Lines For:
  Reach front
Auxiliary Pump Driver
Boom lowering device
B1 Family bucket linkage
Cold Weather Starting Aid
Electric re-fueling pump
Extended life coolant with 50% concentration for protection of −34°C (−30°F)
GLL family grapples
Heavy Counterweight for General Forestry Standard on Log Loader
Hydraulic Arrangements: General Forestry
  Rotating grapple
  Harvesting head
  Thumb

Hydraulic Arrangements: Log Loader
  Ground saw slasher
  Log Loader Linkage
    Stick cylinder guard
  Maintenance service lights for pump and battery compartment
  Pre filter
  Right front corner fuel tank [additional 409 L (108 gal)]
  Rubber guard for boom foot
  Track:
    600 mm (24") double grouser shoes with trap holes
    700 mm (28") Heavy-Duty triple grouser shoes with trap holes
    700 mm (28") double grouser shoes
  Vacuum pump