

# 320D LRR

## Hydraulic Excavator



### Engine

Engine Model	Cat® C6.4 ACERT™	
Net Flywheel Power	110 kW	148 hp

### Weights

Minimum Operating Weight	21 210 kg	46,755 lb
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- Reach boom, R2.5B1 (8 ft 2 in) Stick, 0.47 m<sup>3</sup> (0.61 yd<sup>3</sup>) Bucket, 600 mm (24 in) Double grouser shoes

Maximum Operating Weight	24 990 kg	55,093 lb
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- Heavy-duty reach boom, Heavy-duty R2.9B1 (9 ft 6 in) stick, 1.38 m<sup>3</sup> (1.80 yd<sup>3</sup>) Bucket, 600 mm (24 in) Triple grouser shoes

# 320D LRR Hydraulic Excavator

*The D Series incorporates innovations for improved performance and versatility.*

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## Reduced Radius

The 320D LRR features a reduced tail swing design that allows it to work well in space restricted areas, while providing maximum comfort. **pg. 4**

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## C6.4 with ACERT™ Technology

- ✓ ACERT™ Technology works at the point of combustion to optimize engine performance and provide low exhaust emissions to meet U.S. EPA Tier 3 emission regulations, with exceptional performance capabilities and proven reliability. **pg. 5**

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## Hydraulics

The hydraulic system has been designed to provide reliability and outstanding controllability. An optional Tool Control System provides enhanced flexibility. **pg. 6**

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## Work Tools – Attachments

- ✓ A variety of work tools, including buckets, couplers, hammers, and shears are available through Cat® Work Tools. **pg. 11**

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## Versatility

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

*The Caterpillar® 320D LRR excavator provides all the elements to give you the lowest cost to own and operate. At the end of the day, it all comes down to how much work you got done and how much did it cost you. Caterpillar and the 320D LRR offer you the tools to help lower your owning and operating costs.*



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### Structures

Caterpillar® design and manufacturing techniques assure outstanding durability and service life from these important components. **pg. 7**

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### Operator Comfort

- ✓ Provides maximum space, wider visibility and easy access to switches. The monitor is a full-color graphical display that allows the operator to understand the machine information easily. Overall, the new cab provides a comfortable environment for the operator. **pg. 8**

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### Booms, Sticks and Bucket Linkages

One boom and two sticks are available, offering a range of configurations suitable for a wide variety of application conditions. **pg. 10**

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### Complete Customer Support

Your Cat® dealer offers a wide range of services that can be set up under a customer support agreement when you purchase your equipment. The dealer will help you choose a plan that can cover everything from machine configuration to eventual replacement. **pg. 13**

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### Service and Maintenance

- ✓ Fast, easy service has been designed in with extended service intervals, advanced filtration, convenient filter access and user-friendly electronic diagnostics for increased productivity and reduced maintenance costs. **pg. 14**



✓ *New Feature*

## Reduced Radius

*The Caterpillar 320D LRR is designed for high maneuverability in confined spaces.*



**Comfort.** The cab of the 320D LRR is the same full-sized cab with all the amenities and attachments found on the cab of the 320D L.

**Reduced Radius.** The tail swing of this machine has been reduced where the back end of the machine won't extend beyond the length of the tracks. The tail swing is just 2.0 m (6'7") as compared to the 2.75 m (9'0") on the 320D. When rotated 90 degrees and working over the side, just 600 mm (2'0") hangs over the side. This allows the 320D LRR to work well in road construction applications and other space restricted areas.

**Stability.** The 320D LRR offers a very stable platform providing great stability for all applications. When compared to 320D L, the 320D LRR delivers up to 6% additional lift over the side with the heavier counterweight. One of the main contributors is the additional counterweight used on the 320D LRR. This allows for the balance of the machine to be comparable to a standard machine with a longer tail swing.

## C6.4 with ACERT™ Technology

*The Cat® C6.4 gives the 320D LRR exceptional power and fuel efficiency, unmatched in the industry, for consistently high performance in all applications.*

**Cat C6.4.** The Cat C6.4 with ACERT™ Technology introduces a series of evolutionary, incremental improvements that provide breakthrough engine technology. The building blocks of ACERT Technology are fuel delivery, air management and electronic control. ACERT Technology optimizes engine performance while meeting U.S. EPA Tier 3 emission regulations. With its proven technology, robust components and precision manufacturing, you can count on this engine to power up at start time and keep working productively all shift long.

**Performance.** The 320D LRR, equipped with the C6.4 engine with ACERT™ Technology, provides 7% more power as compared to the 3066TA in the 320C LU. The additional power delivers a speed and efficiency advantage in high production applications.

### 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 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 electrically controlled viscous clutch fan is available as an attachment to reduce fan noise. The optimum fan speed is calculated based on the target engine speed, coolant temperature, hydraulic oil temperature and actual fan speed. When fan speed is reduced, there’s more power available for other functions – and less fuel is burned.

## Hydraulics

*Cat® hydraulics deliver power and precise control to keep material moving.*



**Component Layout.** To optimize efficiency of hydraulic performance, the hydraulic components are located close together, which reduces friction loss and pressure drops in the lines.

**System Pressure.** System pressure has been increased to 35 000 kPa (5,076 psi), which attributes to improved performance:

- Increased stick and bucket forces (up 7% higher than the 320C LU) to better handle those tight digging conditions
- More drawbar pull (206 kN – 46,322 lb) to provide more ability to climb slopes, easier spot turns and improved travel in poor underfoot conditions
- More lift capacity, generally over the front where you are generally hydraulically limited

**Heavy Lift.** The 320D LRR features the addition of a heavy lift, which increases system pressure to 36 000 kPa (5,220 psi), giving even more lift capacity over the front. Heavy Lift is activated by depressing the soft switch on the right hand console. As the pressure increases, the engine speed is reduced, which allows better control while lifting objects.

**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 utilizes each of two hydraulic pumps to 100 percent of engine power, under all operating conditions. This 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.

**Auxiliary Hydraulic Valve.** The auxiliary valve is standard on the 320D LRR.

Control Circuits are available as attachments, allowing for operation of high and medium pressure tools such as shears, grapples, hammers, pulverizers, multi-processors and vibratory plate compactors.

### **Hydraulic Cylinder Snubbers.**

Snubbers are located at the rod-end of the boom cylinders and both ends of the stick cylinders to cushion shocks while reducing sound levels and extending component life.

## Structures

*320D LRR is designed to handle the most rugged operating conditions, while providing long life and value.*



**Robust Undercarriage.** A solid foundation built tough to absorb the stresses of everyday work.

- Rollers and idlers are sealed and lubricated to extend service life.
- Track links are assembled and sealed with grease to decrease internal bushing wear and increase life by as much as 25%, when compared to dry seal undercarriages.
- Spring recoil system stroke has been increased to better relieve excess track tension, which can occur when material builds up between the track and sprocket.

**Rugged Structures.** Structural components and the undercarriage are the backbone of the machine's durability. Caterpillar places a lot of emphasis on the machine's durability during the designing and manufacturing of its excavators.

- Up to 95% of the structural welds are welded by robots, which achieve up to three times the penetration of a manual weld and improving overall durability of the machine.
- The 320D LRR's main frame utilizes high-tensile strength steel and a one-piece swing table, which improves strength and reliability.

- The carbody has a X-shaped, box section design to resist bending and twisting forces.
- Track roller frames are press-formed in a pentagonal shape for additional strength.

## Operator Comfort

*Caterpillar offers the most intuitive and easy to operate excavators while providing great all around visibility and exceptional operator comfort.*



**Operator Station.** The layout of the interior has been redesigned to maximize operator comfort and reduce operator fatigue.

- Frequently used switches have been relocated for easier access.
- Consoles and armrests have been redesigned for better comfort and adjustability.
- More seat options – choose from the standard mechanical suspension seat, or the optional air suspension seat with heater. Both provide excellent comfort.

**Standard Cab Equipment.** To enhance operator comfort and productivity, the cab includes a lighter, drink holder, coat hook, service meter, literature holder, magazine rack and storage compartment.

**Joystick Control.** Joystick controls have low lever effort and are designed to match the operator’s natural wrist and arm position.

**Hydraulic Activation Control Lever.** For added safety, this lever must be in the operate position to activate the machine control functions.

**Automatic Climate Control.** Fully automatic climate control adjusts temperature and flow, and determines which air outlet is best in each situation with a touch of a button.

**Cab Exterior.** The exterior design uses thick steel tubing along the bottom perimeter of the cab, improving the resistance of fatigue and vibration.

**Cab Mounts.** The cab shell is attached to the frame with viscous rubber cab mounts, which dampen vibrations and sound levels while enhancing operator comfort.



**Windows.** All glass is affixed directly to the cab for excellent visibility eliminating window frames.

**Wipers.** Pillar-mounted wipers increase the operator’s viewing area and offer continuous and intermittent modes.

**Skylight.** An enlarged skylight with sunshade provides excellent visibility and ventilation.

**Monitor.** The monitor is a full color Liquid Crystal Display that gives you vital operating and performance information, alerts in text, all in a simple, easy to navigate format.

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



**Main Menu.** Four menu options to choose from:

Settings – Adjust monitor settings, select work tool or choose video mode (when equipped with a camera)

Maintenance – Displays service intervals and hours accumulated since last serviced.

Performance – Displays machine performance attributes such as Engine Speed, Coolant and Hydraulic Oil Temperature.

Service – Allows access to machine parameters for service intervals, diagnostic information and information related to the machines software.

**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.

## Booms, Sticks and Bucket Linkages

*Built for Performance and long service life, Caterpillar® booms and sticks are large, welded, box-section structures with thick, multi-plate fabrications in high stress areas.*



**Bucket Linkage.** The power link improves durability, increases machine-lifting capability in key positions and is easier to use than compared to the previous power link. Lifting from the power link lift eye gives you the optimum lift performance. It allows you to lower the load point, which maximizes the use of the boom cylinders.

**Front Linkage Options.** The Reach Boom allows excellent all-around versatility and a large working envelope. It can be equipped with the following three sticks:

- R2.9B1 – performs well in a mid-range working envelope
- R2.5B1 – a good match when the job requires a larger bucket or a hammer

**Boom.** The boom has a large cross-section and internal baffle plates to provide long life durability.

**Sticks.** The sticks are made of high tensile strength steel using a large box section design with interior baffle plates.

**Heavy-Duty Reach Boom.** Provides additional strength recommended for tough applications.

## Work Tools – Attachments

*The 320D LRR has an extensive selection of work tools to optimize machine performance.*

**Wide Variety of Work Tools.** Caterpillar offers a complete line of work tools to match all of your application needs:

- Hammers – matched to Cat machines for optimum performance
- Thumbs, Stiff Link, Full Rotation – transforms your 320D LRR into a versatile material handling machine
- Grapples – choose from a large variety of grapples that best suit your application
- Multi-processors – does the work of many types of demolition tools by use of interchangeable jaws
- Shears – features 360 degree rotation and high force to weight ratio
- Pulverizers – ideally suited for rapid, non-explosive demolition applications
- Vibratory Plate Compactors – provide superior compaction force in a reliable, low maintenance package
- Rippers – perfectly suited for trenching and pipeline applications where conditions aren't favorable to traditional ripping methods



**Caterpillar Buckets.** The most extensive choice of buckets that can optimize machine performance and match your application needs.

- General Purpose Buckets – for digging in low impact, moderately abrasive materials such as dirt, loam, gravel and clay.
- Heavy-Duty Buckets – for use in abrasive applications such as mixed dirt, clay and rock.
- Heavy-Duty power Buckets – for use in abrasive applications where breakout force and cycle times are critical – good for materials such as mixed dirt, clay and rock.
- Ditch Cleaning Buckets – wide and shallow for ditch cleaning, bank forming and finishing.

### **Caterpillar Ground Engaging Tools (GET).**

Choose from a wide variety of tips that maximize bucket and machine performance. Sidecutters and sidebar protectors are also available.



*Pin Grabber Plus Hydraulic Pin Grabber*

**Couplers.** Multiply the versatility and utility of 320D LRR.

- Hydraulic Pin Grabber Plus – allows quick and easy tool changes without having to leave the cab. Picks up a large variety of tools equipped with standard pins.
- Dedicated Coupler – no loss of tip radius, maximizing the breakout forces on your 320D.

## Versatility

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



**Auxiliary Hydraulic Options.** Allows you to configure your 320D LRR to meet your work tools needs, while increasing its versatility.

- Single Function Circuit – suited for tools that require one-way flow with both pumps, such as hammers, vibratory plate compactors.
- Double Function Circuit – suited for tools that require two-way flow, utilizing one pump, such as thumbs or non-rotation grapples or shears.
- Tool Control System – accommodates single or double function tools, as well as rotating tools when equipped with medium pressure.
  - Stores pressure and flow information for up to 10 tools
  - Cat tools selectable that have preset flows and pressures
  - Shortcut button on right hand console, making tool selection easier.



**Machine Security.** An optional Machine Security System is available from the factory on the 320D LRR. This system controls when the machine can be operated and utilizes specific keys to prevent unauthorized machine use, a significant theft deterrent.

**Product Link.** PL321 is available as standard from the factory and includes the following features:

- Engine hours
- Machine location
- Time based fences (when the machines can operate)
- Geo-based fences (boundaries that the machine can operate)
- Health Watch
  - Codes from on-board EDM's/Sensors
  - Estimated Fuel Consumption
  - Fuel Watch
- Maintenance Watch
  - Preventative Maintenance Planning
  - Preventative Maintenance Checklists
  - Overdue PM Notification
  - PM History Recording

**More Attachments.** The 320D LRR offers the most options available to equip your machine to best match your application and work environment requirements. From track shoe size to guarding packages to operator comfort options, the 320D LRR offers more options.

## Complete Customer Support

*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.

**SAFETY.CAT.COM™.**

## Service and Maintenance

*Simplified service and maintenance features save you time and money.*



The air filter, the access point for the washer tank, and maintenance points for electric components, such as the battery, circuit breaker and controller, are positioned behind the cab, in the air cleaner compartment. The jump-start receptacle, which is an attachment, is near the battery. When equipped, the hand control pattern changer is located within this compartment.

**Pump Compartment.** A service door on the right side allows for ground level access to the hydraulic pump, case drain and pilot filters.



**Ground Level Service.** The design and layout of the 320D LRR 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/Radiator Compartment.**

The left rear service door allows easy access to the engine radiator, oil cooler and air-to-air-after-cooler.

A wire mesh screen is provided between the aftercooler and radiator/oil cooler, where there is a wide enough clearance to blow off debris using a wand.

The air filter, also located within this compartment 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.

**Greasing Points.** A concentrated remote greasing block on the boom delivers grease to hard-to-reach locations on the front.

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

### **Diagnostics and Monitoring.**

The 320D LRR is equipped with S•O•S<sup>SM</sup> 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 LRR service and maintenance intervals have been extended to reduce machine service time and increase machine availability.

## Engine

Engine Model	Cat® C6.4 ACERT™	
Net Flywheel Power	110 kW	148 hp
Net Power – ISO 9249	110 kW	148 hp
Net Power – SAE J1349	110 kW	148 hp
Net Power – EEC 80/1269	110 kW	148 hp
Bore	102 mm	4.02 in
Stroke	130 mm	5.12 in
Displacement	6.4 L	389 in <sup>3</sup>

- The 320D LRR meets U.S. EPA Tier 3 emissions requirements.
- Net flywheel power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- No engine power derated below 2300 m (7,500 ft).

## Weights

Minimum Operating Weight	21 210 kg	46,755 lb
• Reach boom, R2.5B1 (8 ft 2 in) Stick, 0.47 m <sup>3</sup> (0.61 yd <sup>3</sup> ) Bucket, 6.5 mt (14,330 lb) Counterweight, 600 mm (24 in) Double grouser shoes		
Maximum Operating Weight	24 990 kg	55,093 lb
• Heavy-duty reach boom, Heavy-duty R2.9B1 (9 ft 6 in) stick, 1.38 m <sup>3</sup> (1.80 yd <sup>3</sup> ) Bucket, 7.125 mt (15,708 lb) Counterweight, 600 mm (24 in) Triple grouser shoes		

## Service Refill Capacities

Fuel Tank Capacity	290 L	77 gal
Cooling System	25 L	6.6 gal
Engine Oil	30 L	8 gal
Swing Drive	8 L	2.1 gal
Final Drive (each)	8 L	2.1 gal
Hydraulic System (including tank)	211 L	56 gal
Hydraulic Tank (including suction pipe)	155 L	41 gal

## Track

Number of Shoes Each Side – Long Undercarriage	49
Number of Track Rollers Each Side – Long Undercarriage	8
Number of Carrier Rollers Each Side – Long Undercarriage	2

## Swing Mechanism

Swing Speed	11.5 rpm	
Swing Torque	61.8 kN•m	45,612 lb-ft

## Drive

Maximum Drawbar Pull	206 kN	46,311 lb
Maximum Travel Speed	5.7 km/h	3.5 mph

## Hydraulic System

Main Implement System – Maximum Flow (2x)	205 L/min	54 gal/min
Max. pressure – Equipment	35 000 kPa	5,076 psi
Max. pressure – Equipment – Heavy	36 000 kPa	5,221 psi
Max. pressure – Travel	35 000 kPa	5,076 psi
Max. pressure – Swing	25 000 kPa	3,626 psi
Pilot System – Maximum Flow	32.4 L/min	9 gal/min
Pilot System – Maximum Pressure	3900 kPa	566 psi
Boom Cylinder – Bore	120 mm	4.7 in
Boom Cylinder – Stroke	1260 mm	49.6 in
Reach Stick Cylinder – Bore	140 mm	5.5 in
Reach Stick Cylinder – Stroke	1518 mm	59.8 in
B1 Family Bucket Cylinder – Bore	120 mm	4.7 in
B1 Family Bucket Cylinder – Stroke	1104 mm	43.5 in

## Sound Performance

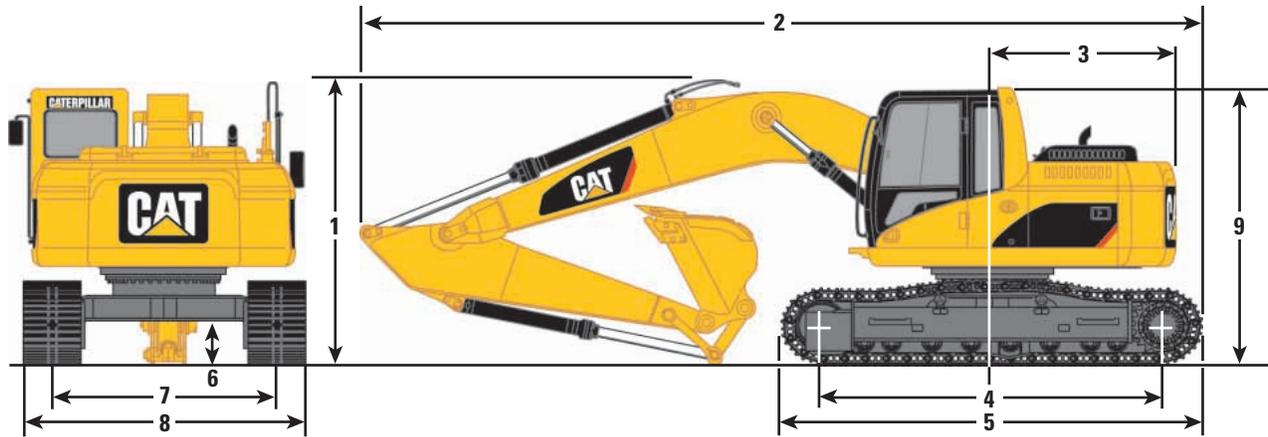
Performance	ANSI/SAE J1166 APR 90
• When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT 98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.	
• Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in noisy environment.	

## Standards

Brakes	SAE J1026 APR90
Cab/FOGS	SAE J1356 FEB88

# Dimensions

All dimensions are approximate.



## Boom Options

Reach  
5.68 m (18'7")

Reach  
5.68 m (18'7")

## Stick Options

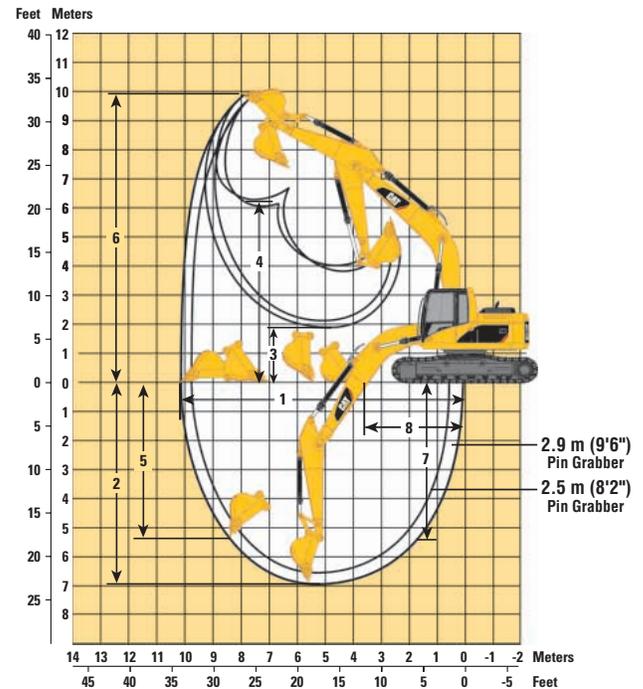
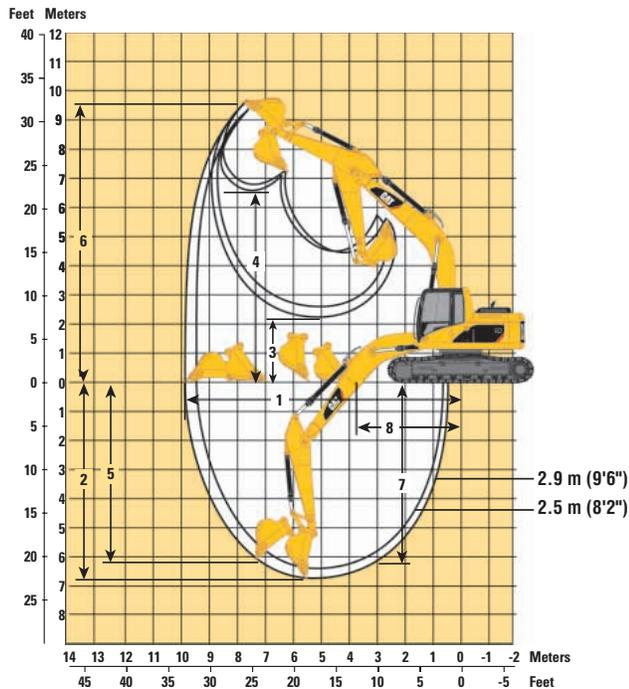
R2.9B1 m (9'6") Std/SA

R2.5B1 m (8'2") Std/SA

	Reach 5.68 m (18'7")	Reach 5.68 m (18'7")
Stick Options	R2.9B1 m (9'6") Std/SA	R2.5B1 m (8'2") Std/SA
1 Shipping Height	3030 mm (9'11")	3050 mm (10'0")
2 Shipping Length	8790 mm (28'10")	8790 mm (28'10")
3 Tail Swing Radius	2000 mm (6'7")	2000 mm (6'7")
4 Length to Center of Rollers Long	3650 mm (12'0")	3650 mm (12'0")
5 Track Length Long	4455 mm (14'7")	4455 mm (14'7")
6 Ground Clearance	450 mm (1'6")	450 mm (1'6")
7 Track Gauge Long	2380 mm (7'10")	2380 mm (7'10")
8 Transport Width Long	700 mm Shoes 3080 mm (10'1")	600 mm Shoes 2980 mm (9'9")
9 Cab Height	2950 mm (9'8")	2950 mm (9'8")

\* Removing the bucket and quick coupler changes the shipping height to 3390 mm (11'1").  
Note: All numbers are approximate.

# Working Ranges



Boom	Reach 5.68 m (18'7")	Reach 5.68 m (18'7")
Stick Length	R2.9B1 m (9'6")	R2.5B1 m (8'2")
Bucket	1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> )	1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> )
1 Maximum Reach at Ground Level	9860 (32'4")	9460 (31'0")
2 Maximum Digging Depth	6720 (22'1")	6300 (20'8")
3 Minimum Loading Height	2170 (7'1")	2590 (8'6")
4 Maximum Loading Height	6490 (21'4")	6290 (20'8")
5 Maximum Vertical Wall Digging Depth	6060 (19'11")	5650 (18'6")
6 Maximum Cutting Height	9490 (31'2")	9290 (30'6")
7 Maximum Depth Cut for 2440 m (8') Level Bottom	6060 (19'11")	5650 (18'6")
8 Minimum Front Swing Radius	3660 (12'0")	3710 (12'2")

Boom	Reach 5.68 m (18'7")	Reach 5.68 m (18'7")
Stick Length	R2.9B1 m (9'6")	R2.5B1 m (8'2")
Bucket	Pin Grabber Quick Coupler with 1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> )	Pin Grabber Quick Coupler with 1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> )
1 Maximum Reach at Ground Level	10 120 (33'2")	9730 (31'11")
2 Maximum Digging Depth	6980 (22'11")	6560 (21'6")
3 Minimum Loading Height	1910 (6'3")	2330 (7'8")
4 Maximum Loading Height	6230 (20'5")	6030 (19'9")
5 Maximum Vertical Wall Digging Depth	5380 (17'8")	4990 (16'4")
6 Maximum Cutting Height	9720 (31'11")	9520 (31'0")
7 Maximum Depth Cut for 2440 m (8') Level Bottom	5380 (17'8")	4990 (16'4")
8 Minimum Front Swing Radius	3660 (12'0")	3710 (12'2")

Note: All numbers are approximate

## Bucket and Stick Forces

Bucket and Stick force are calculated with different buckets than those calculated for working range.

General Purpose Buckets	R2.9B1 Stick	R2.9B1 Stick w/Coupler	R2.5B1 Stick	R2.5B1 Stick w/Coupler
	Bucket Digging Force (ISO)	140 kN (31,361 lb)	116 kN (26,145 lb)	140 kN (31,361 lb)
Bucket Digging Force (SAE)	125 kN (28,079 lb)	108 kN (24,189 lb)	125 kN (28,079 lb)	108 kN (24,189 lb)
Stick Digging Force (ISO)	106 kN (23,897 lb)	100 kN (22,436 lb)	118 kN (26,460 lb)	110 kN (24,706 lb)
Stick Digging Force (SAE)	103 kN (23,223 lb)	98 kN (22,009 lb)	114 kN (25,628 lb)	107 kN (24,144 lb)

Power Buckets	R2.9B1 Stick	R2.9B1 Stick w/Coupler	R2.5B1 Stick	R2.5B1 Stick w/Coupler
	Bucket Digging Force (ISO)	163 kN (36,711 lb)	124 kN (27,809 lb)	163 kN (36,711 lb)
Bucket Digging Force (SAE)	144 kN (32,417 lb)	113 kN (25,493 lb)	144 kN (32,417 lb)	113 kN (25,493 lb)
Stick Digging Force (ISO)	109 kN (24,482 lb)	102 kN (22,863 lb)	121 kN (27,202 lb)	112 kN (25,224 lb)
Stick Digging Force (SAE)	106 kN (23,717 lb)	99 kN (22,301 lb)	117 kN (26,235 lb)	109 kN (24,527 lb)

Heavy Duty/Rock Buckets	R2.9B1 Stick	R2.9B1 Stick w/Coupler	R2.5B1 Stick	R2.5B1 Stick w/Coupler
	Bucket Digging Force (ISO)	140 kN (31,563 lb)	117 kN (26,258 lb)	140 kN (31,563 lb)
Bucket Digging Force (SAE)	125 kN (28,079 lb)	107 kN (24,144 lb)	125 kN (28,079 lb)	108 kN (24,212 lb)
Stick Digging Force (ISO)	106 kN (23,920 lb)	100 kN (22,458 lb)	118 kN (26,505 lb)	110 kN (24,729 lb)
Stick Digging Force (SAE)	103 kN (23,200 lb)	98 kN (21,964 lb)	114 kN (25,606 lb)	107 kN (24,100 lb)

## Major Component Weights

Base machine with counterweight (without front linkage)		
Long undercarriage with 800 mm shoe	19 900 kg	43,872 lb
Two boom cylinders (each)	182 kg	401 lb
Counterweight		
Optional	6500 kg	14,330 lb
Standard	7125 kg	15,708 lb
Boom (includes lines, pins and stick cylinder)		
Reach boom 5.7 m (18'7")	1640 kg	3,616 lb
Stick (includes lines, pins, bucket cylinder and linkage)		
R2.9 (9'6")	818 kg	1,803 lb
R2.5 (8'2")	779 kg	1,717 lb
Undercarriage [includes carbody, swing bearing, track frame, rollers, idlers, steps, guards, final drive]		
L undercarriage with 800 mm shoe	7880 kg	17,372 lb

## 320D LRR Work Tool Matching Guide

<b>Boom Options</b>	<b>Reach Boom 5.68 m (18'7")</b>	
<b>Stick Options</b>	<b>R2.9B1 (9'6")</b>	<b>R2.5B1 (8'2")</b>
Hydraulic Hammer	H115s/ H120Cs/ H130s	H115s/ H120Cs/ H130s
Vibratory Plate Compactor	CVP110	CVP110
Muti-Processor	MP15	MP15
360 Scrap Shear	S320	S320
Trash Grapple	2.7 m <sup>3</sup> (3.5 yd <sup>3</sup> )	2.7 m <sup>3</sup> (3.5 yd <sup>3</sup> )
Contractor's Grapple	yes	yes
Hydraulic Thumb	yes	yes
Dedicated Quick Coupler	yes	yes
Pin-Grabber Quick Coupler	yes	yes

# 320D LRR Bucket Options

	Adapter	Capacity		Width		Tip Radius		Weight (without tips)		Teeth Qty	R2.9B1		R2.5B1	
		m <sup>3</sup>	yd <sup>3</sup>	mm	in	mm	in	kg	lb		R2.9B1 w/QC	R2.5B1 w/QC		
<b>B Family</b>														
General Purpose (GP)	K80	0.55	0.72	610	24	1565	61.6	629	1,387	3	●	●	●	●
	K80	0.75	0.98	762	30	1565	61.6	718	1,583	4	●	●	●	●
	K80	0.95	1.24	914	36	1565	61.6	790	1,742	5	●	●	●	●
	K80	1.17	1.53	1067	42	1565	61.6	852	1,878	5	●	●	●	●
	K80	1.39	1.82	1219	48	1565	61.6	926	2,041	6	○	○	●	○
	K80	1.57	2.05	1372	54	1565	61.6	1000	2,205	6	○	○	○	○
Heavy Duty (HD)	K90	0.47	0.61	610	24	1578	62.1	650	1,433	3	●	●	●	●
	K90	0.64	0.84	762	30	1578	62.1	743	1,638	4	●	●	●	●
	K90	0.82	1.07	914	36	1578	62.1	813	1,792	5	●	●	●	●
	K90	1.00	1.31	1067	42	1578	62.1	866	1,909	5	●	●	●	●
	K90	1.19	1.56	1219	48	1578	62.1	956	2,108	6	●	○	●	●
	K90	1.38	1.80	1372	54	1578	62.1	1030	2,271	6	○	○	○	○
Heavy Duty Rock (HDR)	K90	0.54	0.70	610	24	1578	62.1	696	1,534	3	●	●	●	●
	K90	0.77	1.00	762	30	1578	62.1	781	1,722	4	●	●	●	●
Heavy Duty Power (HDP)	K90	0.84	1.10	914	36	1578	62.1	863	1,903	5	●	●	●	●
	K90	1.07	1.40	1067	42	1578	62.1	933	2,057	5	●	●	●	●
	K90	0.79	1.03	914	36	1458	57.4	811	1,788	5	●	●	●	●
Ditch Cleaning (DC)	K90	0.96	1.26	1067	42	1458	57.4	875	1,929	5	●	●	●	●
	K90	1.14	1.49	1219	48	1458	57.4	954	2,103	6	○	○	●	○
	n/a	1.02	1.33	1524	60	1139	44.8	726	1,601	0	●	●	●	●
	n/a	1.24	1.62	1830	72	1139	44.8	823	1,814	0	○	○	●	○

Assumptions for maximum material density rating:

1. Front Linkage fully extended at ground line
2. Machine positioned 90 degrees over the side
3. Bucket curled
4. 100% Bucket Fill Factor

Please consult with your Caterpillar dealer personnel for optimum selection of buckets and work tools that best match your application.

\* Based on SAE J296, some calculations of capacity specs fall on borderlines. Rounding may allow two buckets to have the same English rating, but different metric ratings.

- 2100 kg/m<sup>3</sup> (3,500 lb/yd<sup>3</sup>) max material density
- 1800 kg/m<sup>3</sup> (3,000 lb/yd<sup>3</sup>) max material density
- 1500 kg/m<sup>3</sup> (2,500 lb/yd<sup>3</sup>) max material density
- 1200 kg/m<sup>3</sup> (2,000 lb/yd<sup>3</sup>) max material density
- Not Recommended

# Reach Boom Lift Capacities for 7 Metric Ton Counterweight



Load Point Height



Load Radius Over Front



Load Radius Over Side



Load at Maximum Reach

**STICK** – 2.9 m (9'6")

**BUCKET** – No Bucket, Bare Quick Coupler

**UNDERCARRIAGE** – Long

**SHOES** – 800 mm (32") triple grouser

**BOOM** – 5.7 m (18'7")

**HEAVY LIFT** – ON

	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)				m ft	
														
7.5 m 25.0 ft	kg lb											*3200 *7,150	*3200 *7,150	6.60 21.29
6.0 m 20.0 ft	kg lb								*3700	*3700		*3000 *6,600	*3000 *6,600	7.67 24.97
4.5 m 15.0 ft	kg lb						*5100 *11,050	*5100 *11,050	*4800 *10,500	3800 8,150		*2950 *6,500	*2950 *6,500	8.33 27.26
3.0 m 10.0 ft	kg lb			*11 650 *24,750	*11 650 *24,750	*7500 *16,150	*7500 *16,150	*5950 *12,900	5200 11,200	*5200 *11,350	3700 7,950	*3050 *6,650	2900 6,400	8.69 28.48
1.5 m 5.0 ft	kg lb					*9350 *20,200	7550 16,200	*6900 *14,950	4950 10,700	*5700 *12,250	3600 7,650	*3200 *7,050	2800 6,150	8.77 28.79
Ground Line	kg lb			*6850 *15,650	*6850 *15,650	*10 550 *22,800	7200 15,500	*7650 *16,500	4750 10,250	5650 12,200	3500 7,450	*3600 *7,850	2850 6,250	8.60 28.20
-1.5 m -5.0 ft	kg lb	*6250 *14,000	*6250 *14,000	*10 400 *23,600	*10 400 *23,600	*10 850 *23,550	7100 15,200	7850 16,800	4650 10,050	5600 12,100	3450 7,350	*4200 *9,250	3050 6,750	8.14 26.67
-3.0 m -10.0 ft	kg lb	*10 350 *23,250	*10 350 *23,250	*15 150 *32,750	13 800 29,550	*10 400 *22,450	7100 15,250	*7650 *16,500	4600 9,950			*5400 *11,950	3550 7,850	7.35 23.99
-4.5 m -15.0 ft	kg lb			*12 550 *26,950	*12 550 *26,950	*8850 *18,900	7250 15,600	*6200	4800			*6000 *13,250	4750 10,600	6.09 19.72

\* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. 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.



Load Point Height



Load Radius Over Front



Load Radius Over Side



Load at Maximum Reach

**STICK** – 2.9 m (9'6")

**BUCKET** – 0.82 m<sup>3</sup> (1.07 yd<sup>3</sup>)

**UNDERCARRIAGE** – Long

**SHOES** – 800 mm (32") triple grouser

**BOOM** – 5.7 m (18'7")

**HEAVY LIFT** – ON

	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)				m ft	
														
7.5 m 25.0 ft	kg lb											*2000 *4,450	*2000 *4,450	7.84 25.38
6.0 m 20.0 ft	kg lb								*3650	3500		*1900 *4,200	*1900 *4,200	8.81 28.74
4.5 m 15.0 ft	kg lb						*4700 *10,200	*4700 *10,200	*4400 *9,600	3450 7,350		*1900 *4,150	*1900 *4,150	9.38 30.71
3.0 m 10.0 ft	kg lb			*11 300 *24,000	*11 300 *24,000	*7150 *15,350	*7150 *15,350	*5550 *12,050	4900 10,500	*4800 *10,450	3350 7,200	*1950 *4,300	*1950 *4,300	9.64 31.61
1.5 m 5.0 ft	kg lb					*9000 *19,350	7200 15,500	*6500 *14,050	4650 9,950	*5300 *11,450	3250 6,900	*2100 *4,650	2200 4,550	9.61 31.54
Ground Line	kg lb			*6400 *14,650	*6400 *14,650	*10 150 *21,850	6850 14,650	*7250 *15,650	4450 9,500	5300 11,450	3150 6,700	*2400 *5,250	2200 4,800	9.30 30.52
-1.5 m -5.0 ft	kg lb	*5900 *13,200	*5900 *13,200	*9950 *22,600	*9950 *22,600	*10 450 *22,600	6750 14,400	7500 16,100	4350 9,300	5250 11,300	3100 6,600	*2800 *6,200	2500 5,400	8.68 28.44
-3.0 m -10.0 ft	kg lb	*9950 *22,300	*9950 *22,300	*14 650 *31,700	13 400 28,650	*9950 *21,550	6750 14,450	*7250 *15,600	4350 9,300			*3600 *8,000	3100 6,800	7.65 24.97
-4.5 m -15.0 ft	kg lb			*12 150 *26,000	*12 150 *26,000	*8450 *18,050	6950 14,900	*5800	4500			*4000 *9,300	*4000 *9,300	6.02 19.59

\* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. 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.

# Reach Boom Lift Capacities for 7 Metric Ton Counterweight



Load Point Height



Load Radius Over Front



Load Radius Over Side



Load at Maximum Reach

**STICK** – 2.5 m (8'2")

**UNDERCARRIAGE** – Long

**BOOM** – 5.7 m (18'7")

**BUCKET** – No Bucket, Bare Quick Coupler

**SHOES** – 800 mm (32") triple grouser

**HEAVY LIFT** – ON

	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)				m ft	
7.5 m 25.0 ft	kg lb						*4150 *4150	*4150 *4150			*3850 *8,600	*3850 *8,600	6.06 19.49	
6.0 m 20.0 ft	kg lb						*4950 *10,850	*4950 *10,850			*3550 *7,850	*3550 *7,850	7.21 23.47	
4.5 m 15.0 ft	kg lb						*5450 *11,850	5350 11,600	*5100 *10,950	3750 8,050	*3500 *7,700	3450 7,550	7.92 25.89	
3.0 m 10.0 ft	kg lb				*8100 *17,400	7950 17,050	*6300 *13,650	5150 11,100	*5450 *11,900	3650 7,850	*3600 *7,900	3150 6,850	8.29 27.18	
1.5 m 5.0 ft	kg lb				*9800 *21,150	7450 16,000	*7150 *15,500	4900 10,550	5800 12,350	3550 7,650	*3850 *8,450	3000 6,600	8.38 27.49	
Ground Line	kg lb		*6100 *14,000	*6100 *14,000	*10 750 *23,250	7100 15,400	*7800 17,000	4750 10,200	5650 12,200	3600 7,450	*4300 *9,500	3050 6,750	8.19 26.88	
-1.5 m -5.0 ft	kg lb	*6750 *15,050	*6750 *15,050	*10 950 *24,850	*10 950 *24,850	*10 850 *23,450	7100 15,200	7850 16,800	4700 10,050	5600 12,150	3450 7,400	*5150 *11,350	3350 7,300	7.71 25.26
-3.0 m -10.0 ft	kg lb	*11 750 *26,350	*11 750 *26,350	*14 350 *31,050	13 900 29,800	*10 100 *21,800	7150 15,300	*7450 *16,000	4700 10,150			*6150 *13,550	3950 8,700	6.87 22.42
-4.5 m -15.0 ft	kg lb			*11 350 *24,250	*11 350 *24,250	*8100 *17,200	7350 15,800					*6200 *13,650	5500 12,500	5.50 17.77

\* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. 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.



Load Point Height



Load Radius Over Front



Load Radius Over Side



Load at Maximum Reach

**STICK** – 2.5 m (8'2")

**UNDERCARRIAGE** – Long

**BOOM** – 5.7 m (18'7")

**BUCKET** – 0.82 m<sup>3</sup> (1.07 yd<sup>3</sup>)

**SHOES** – 800 mm (32") triple grouser

**HEAVY LIFT** – ON

	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)				m ft	
7.5 m 25.0 ft	kg lb										*2400 *5,300	*2400 *5,300	7.32 23.67	
6.0 m 20.0 ft	kg lb						*4550 *9,950	*4550 *9,950			*2250 *5,000	*2250 *5,000	8.37 27.29	
4.5 m 15.0 ft	kg lb						*5050 *11,000	5050 10,900	*4700 *10,250	3400 7,250	*2250 *4,950	*2250 *4,950	8.98 29.38	
3.0 m 10.0 ft	kg lb				*7700 *16,550	7650 16,400	*5900 *12,800	4850 10,350	*5050 *11,000	3350 7,100	*2350 *5,150	2300 5,000	9.25 30.32	
1.5 m 5.0 ft	kg lb				*9400 *20,250	7100 15,200	*6800 *14,650	4600 9,850	5400 11,650	3200 6,900	*2550 *5,550	2300 4,950	9.22 30.25	
Ground Line	kg lb		*5700 *13,100	*5700 *13,100	*10 300 *22,300	6800 14,550	*7400 *15,950	4400 9,450	5300 11,450	3150 6,700	*2850 *6,200	2400 5,200	8.89 29.18	
-1.5 m -5.0 ft	kg lb	*6400 *14,350	*6400 *14,350	*10 500 *23,850	*10 500 *23,850	*10 400 *22,500	6750 14,400	7500 16,100	4350 9,300	5300 11,400	3100 6,650	*3350 *7,400	2700 6,000	8.23 26.97
-3.0 m -10.0 ft	kg lb	*11 350 *25,450	*11 350 *25,450	*13 850 *30,000	13 500 28,850	*9650 *20,900	6800 14,550	*7050 *15,100	4400 9,400			*4350 *9,600	3500 7,700	7.13 23.25
-4.5 m -15.0 ft	kg lb			*10 900 *23,350	*10 900 *23,350	*7700 *16,350	7050 15,150					*5850 *12,800	5200 11,800	5.50 17.76

\* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. 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.

# Reach Boom Lift Capacities for 6 Metric Ton Counterweight



Load Point Height



Load Radius Over Front



Load Radius Over Side



Load at Maximum Reach

**STICK** – 3.9 m (12'10")  
**BUCKET** – 0.82 m<sup>3</sup> (1.07 yd<sup>3</sup>)

**UNDERCARRIAGE** – Long  
**SHOES** – 800 mm (32") triple grouser

**BOOM** – 5.7 m (18'9")  
**HEAVY LIFT** – ON

 9.0 m 30.0 ft kg lb	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)		9.0 m (30.0 ft)		10.5 m (35.0 ft)		 m ft			
	 	 	 	 	 	 	 	 	 									
7.5 m 25.0 ft									*2900 *5,850	*2900 *5,850					*1550 *3,450	*1550 *3,450	8.94 29.05	
6.0 m 20.0 ft									*3300 *7,250	*3300 *7,250					*1500 *3,250	*1500 *3,250	9.78 31.96	
4.5 m 15.0 ft									*3600 *7,850	3450 7,300	*2750 *5,250	2350 5,000			*1450 *3,200	*1450 *3,200	10.29 33.71	
3.0 m 10.0 ft							*4600 *10,000	*4600 *10,000	*4100 *8,900	3300 7,050	*3650 *7,300	2300 4,900			*1550 *3,350	*1550 *3,350	10.52 34.52	
1.5 m 5.0 ft			*11 950 *27,200	*11 950 *27,200	*7650 *16,450	7250 15,600	*5650 *12,250	4600 9,800	*4700 *10,150	3150 6,700	3900 8,350	2250 4,750			*1650 *3,600	*1650 *3,600	10.50 34.46	
Ground Line			*7450 *17,150	*7450 *17,150	*9250 *19,950	6750 14,450	*6600 *14,250	4300 9,250	5200 11,100	3000 6,400	3850 8,200	2150 4,600			*1850 *4,050	1700 3,750	10.23 33.55	
-1.5 m -5.0 ft	*4800 *10,700	*4800 *10,700	*9050 *20,550	*9050 *20,550	*10 050 *21,750	6450 13,850	*7150 *15,500	4150 8,850	5050 10,850	2900 6,200	*3350	2100			*2150 *4,750	1900 4,150	9.67 31.69	
-3.0 m -10.0 ft	*7700 *17,300	*7700 *17,300	*12 400 *28,150	*12 400 *28,150	*10 150 *21,900	6400 13,700	7200 15,450	4050 8,750	5050 10,800	2850 6,150					*2700 *6,000	2250 5,000	8.78 28.69	
-4.5 m -15.0 ft	*11 400 *25,700	*11 400 *25,700	*13 950 *30,000	13 050 27,950	*9350 *20,100	6500 13,950	*6700 *14,350	4150 8,900							*3800 *8,500	3100 6,950	7.41 24.06	
-6.0 m -20.0 ft			*10 600 *22,350	*10 600 *22,350	*7150 *14,950	6750 14,600									*5050 *11,100	4750 10,950	5.66 18.13	
-7.5 m -25.0 ft																		

\* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. 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.



Load Point Height



Load Radius Over Front



Load Radius Over Side



Load at Maximum Reach

**STICK** – 2.9 m (9'7")  
**BUCKET** – 0.82 m<sup>3</sup> (1.07 yd<sup>3</sup>)

**UNDERCARRIAGE** – Long  
**SHOES** – 800 mm (32") triple grouser

**BOOM** – 5.7 m (18'9")  
**HEAVY LIFT** – ON

 9.0 m 30.0 ft kg lb	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)		9.0 m (30.0 ft)		 m ft					
	 	 	 	 	 	 	 	 	 									
7.5 m 25.0 ft														*2000 *4,450	*2000 *4,450	7.84 25.38		
6.0 m 20.0 ft										*3650 3500				*1900 *4,200	*1900 *4,200	8.81 28.74		
4.5 m 15.0 ft							*4700 *10,200	*4700 *10,200	*4400 *9,600	3400 7,250				*1900 *4,150	*1900 *4,150	9.38 30.71		
3.0 m 10.0 ft			*11 300 *24,000	*11 300 *24,000	*7150 *15,350	*7150 *15,350	*5550 *12,050	4850 10,400	*4800 *10,450	3300 7,100				*1950 *4,300	*1950 *4,300	9.64 31.61		
1.5 m 5.0 ft					*9000 *19,350	7100 15,300	*6500 *14,050	7100 9,850	*5300 *11,450	3200 6,800				*2100 *4,650	2050 4,500	9.61 31.54		
Ground Line			*6400 *14,650	*6400 *14,650	*10 150 *21,850	6750 14,500	*7250 *15,650	4400 9,400	5250 11,300	3100 6,600				*2400 *5,250	2150 4,750	9.30 30.52		
-1.5 m -5.0 ft	*5900 *13,200	*5900 *13,200	*9950 *22,600	*9950 *22,600	*10 450 *22,600	6650 14,250	7400 15,900	4300 9,200	5200 11,200	3050 6,500				*2800 *6,200	2450 5,350	8.68 28.44		
-3.0 m -10.0 ft	*9950 *22,300	*9950 *22,300	*14 650 *31,700	13 250 28,350	*9950 *21,550	6650 14,300	*7250 *15,600	4300 9,200						*3600 *8,000	3050 6,700	7.65 24.97		
-4.5 m -15.0 ft			*12 150 *26,000	*12 150 *26,000	*8450 *18,050	6850 14,750	*5800	4450						*4000 *9,300	*4000 *9,300	6.02 19.59		
-6.0 m -20.0 ft																		

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

# Reach Boom Lift Capacities for 6 Metric Ton Counterweight



Load Point Height



Load Radius Over Front



Load Radius Over Side



Load at Maximum Reach

**STICK** – 2.5 m (8'3")  
**BUCKET** – 0.82 m<sup>3</sup> (1.07 yd<sup>3</sup>)

**UNDERCARRIAGE** – Long  
**SHOES** – 800 mm (32") triple grouser

**BOOM** – 5.7 m (18'9")  
**HEAVY LIFT** – ON

	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)		9.0 m (30.0 ft)				m ft	
																
9.0 m 30.0 ft	kg lb															
7.5 m 25.0 ft	kg lb													*2400 *5,300	*2400 *5,300	7.32 23.67
6.0 m 20.0 ft	kg lb							*4550 *9,950	*4550 *9,950					*2250 *5,000	*2250 *5,000	8.37 27.29
4.5 m 15.0 ft	kg lb							*5050 *11,000	5000 10,750	*4700 *10,250	3350 7,150			*2250 *4,950	*2250 *4,950	8.98 29.38
3.0 m 10.0 ft	kg lb					*7700 *16,550	7550 16,250	*5900 *12,800	4800 10,250	*5050 *11,000	3300 7,000			*2350 *5,150	2250 4,950	9.25 30.32
1.5 m 5.0 ft	kg lb					*9400 *20,250	7000 15,050	*6800 *14,650	4550 9,750	5350 11,500	3150 6,800			*2550 *5,550	2250 4,900	9.22 30.25
Ground Line	kg lb			*5700 *13,100	*5700 *13,100	*10 300 *22,300	6700 14,400	*7400 *15,950	4350 9,350	5250 11,300	3100 6,600			*2850 *6,200	2350 5,150	8.89 29.18
-1.5 m -5.0 ft	kg lb	*6400 *14,350	*6400 *14,350	*10 500 *23,850	*10 500 *23,850	*10 400 *22,500	6650 14,250	7400 15,900	4300 9,200	5250 11,250	3050 6,550			*3350 *7,400	2650 5,900	8.23 26.97
-3.0 m -10.0 ft	kg lb	*11 350 *25,450	*11 350 *25,450	*13 850 *30,000	13 350 28,550	*9650 *20,900	6700 14,400	*7050 *15,100	4350 9,300					*4350 *9,600	3450 7,600	7.13 23.25
-4.5 m -15.0 ft	kg lb			*10 900 *23,350	*10 900 *23,350	*7700 *16,350	6950 15,000							*5850 *12,800	5150 11,650	5.50 17.76
-6.0 m -20.0 ft	kg lb															

\* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. 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.



Load Point Height



Load Radius Over Front



Load Radius Over Side



Load at Maximum Reach – Coupler Curled

**STICK** – 2.9 m (9'7")  
**BUCKET** – No Bucket, Bare Quick Coupler

**UNDERCARRIAGE** – Long  
**SHOES** – 800 mm (32") triple grouser

**BOOM** – 5.7 m (18'9")  
**HEAVY LIFT** – ON

	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)		9.0 m (30.0 ft)				m ft	
																
9.0 m 30.0 ft	kg lb															
7.5 m 25.0 ft	kg lb													*3200 *7,150	*3200 *7,150	6.60 21.29
6.0 m 20.0 ft	kg lb									*3700 *8,050	*3700 *8,050			*3000 *6,600	*3000 *6,600	7.67 24.97
4.5 m 15.0 ft	kg lb							*5100 *11,050	*5100 *11,050	*4800 *10,500	3750 8,050			*2950 *6,500	*2950 *6,500	8.33 27.26
3.0 m 10.0 ft	kg lb			*11 650 *24,750	*11 650 *24,750	*7500 *16,150	*7500 *16,150	*5950 *12,900	5150 11,100	*5200 *11,350	3650 7,850			*3050 *6,650	2850 6,300	8.69 28.48
1.5 m 5.0 ft	kg lb					*9350 *20,200	7450 16,000	*6900 *14,950	4900 10,550	*5700 *12,250	3550 7,550			*3200 *7,050	2750 6,050	8.77 28.79
Ground Line	kg lb			*6850 *15,650	*6850 *15,650	*10 550 *22,800	7100 15,300	*7650 *16,500	4700 10,150	5600 12,050	3450 7,350			*3600 *7,850	2800 6,150	8.60 28.20
-1.5 m -5.0 ft	kg lb	*6250 *14,000	*6250 *14,000	*10 400 *23,600	*10 400 *23,600	*10 850 *23,550	7000 15,000	7750 16,600	4600 9,900	5550 11,950	3400 7,250			*4200 *9,250	3000 6,650	8.14 26.67
-3.0 m -10.0 ft	kg lb	*10 350 *23,250	*10 350 *23,250	*15 150 *32,750	13 650 29,250	*10 400 *22,450	7000 15,050	*7650 *16,500	4600 9,950					*5400 *11,950	3500 7,750	7.35 23.99
-4.5 m -15.0 ft	kg lb			*12 550 *26,950	*12 550 *26,950	*8850 *18,900	7150 15,450	*6200 14,450	4750					*6000 *13,250	4700 10,500	6.09 19.72
-6.0 m -20.0 ft	kg lb															

\* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. 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.

# Reach Boom Lift Capacities for 6 Metric Ton Counterweight



Load Point  
Height



Load Radius  
Over Front



Load Radius  
Over Side



Load at Maximum  
Reach – Coupler Curled

**STICK** – 2.5 m (8'3")

**BUCKET** – No Bucket, Bare Quick Coupler

**UNDERCARRIAGE** – Long

**SHOES** – 800 mm (32") triple grouser

**BOOM** – 5.7 m (18'9")

**HEAVY LIFT** – ON

		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)		9.0 m (30.0 ft)				m ft
																
9.0 m	kg															
30.0 ft	lb															
7.5 m	kg							*4150	*4150					*3850	*3850	6.06
25.0 ft	lb													<b>*8,600</b>	<b>*8,600</b>	<b>19.49</b>
6.0 m	kg							*4950	*4950					*3550	*3550	7.21
20.0 ft	lb							<b>*10,850</b>	<b>*10,850</b>					<b>*7,850</b>	<b>*7,850</b>	<b>23.47</b>
4.5 m	kg							*5450	5300	*5100	3700			*3500	3400	7.92
15.0 ft	lb							<b>*11,850</b>	<b>11,450</b>	<b>*10,950</b>	<b>7,950</b>			<b>*7,700</b>	<b>7,450</b>	<b>25.89</b>
3.0 m	kg					*8100	7850	*6300	5100	*5450	3600			*3600	3100	8.29
10.0 ft	lb					<b>*17,400</b>	<b>16,850</b>	<b>*13,650</b>	<b>10,950</b>	<b>*11,900</b>	<b>7,750</b>			<b>*7,900</b>	<b>6,750</b>	<b>27.18</b>
1.5 m	kg					*9800	7350	*7150	4850	5700	3500			*3850	2950	8.38
5.0 ft	lb					<b>*21,150</b>	<b>15,800</b>	<b>*15,500</b>	<b>10,450</b>	<b>12,200</b>	<b>7,550</b>			<b>*8,450</b>	<b>6,500</b>	<b>27.49</b>
Ground Line	kg			*6100	*6100	*10 750	7050	*7800	4700	5600	3450			*4300	3000	8.19
	lb			<b>*14,000</b>	<b>*14,000</b>	<b>*23,250</b>	<b>15,200</b>	<b>16,800</b>	<b>10,100</b>	<b>12,050</b>	<b>7,350</b>			<b>*9,500</b>	<b>6,650</b>	<b>26.88</b>
-1.5 m	kg	*6750	*6750	*10 950	*10 950	*10 850	7000	7750	4650	5550	3400			*5150	3300	7.71
-5.0 ft	lb	<b>*15,050</b>	<b>*15,050</b>	<b>*24,850</b>	<b>*24,850</b>	<b>*23,450</b>	<b>15,000</b>	<b>16,600</b>	<b>9,950</b>	<b>12,000</b>	<b>7,300</b>			<b>*11,350</b>	<b>7,200</b>	<b>25.26</b>
-3.0 m	kg	*11 750	*11 750	*14 350	13 750	*10 100	7050	*7450	4650					*6150	3900	6.87
-10.0 ft	lb	<b>*26,350</b>	<b>*26,350</b>	<b>*31,050</b>	<b>29,450</b>	<b>*21,800</b>	<b>15,150</b>	<b>*16,000</b>	<b>10,050</b>					<b>*13,550</b>	<b>8,600</b>	<b>22.42</b>
-4.5 m	kg			*11 350	*11 350	*8100	7250							*6200	5450	5.50
-15.0 ft	lb			<b>*24,250</b>	<b>*24,250</b>	<b>*17,200</b>	<b>15,650</b>							<b>*13,650</b>	<b>12,350</b>	<b>17.77</b>
-6.0 m	kg															
-20.0 ft	lb															

\* Limited by hydraulic capacity rather than tipping load. The above loads are in compliance with SAE hydraulic excavator lift capacity rating standard J1097. 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.

## Standard Equipment

*Standard equipment may vary. Consult your Caterpillar dealer for details.*

### Electrical

- 50 Ampere alternator
- Base machine light (frame)
- Horn
- Pre-start monitoring system – checks for low fluids (engine oil, coolant, hydraulic oil) prior to starting machine

### Operator Environment

- Air conditioner, heater, defroster with automatic climate control
- AM/FM Radio with antenna and 2 speakers
- Ashtray with 24 volt lighter
- Beverage/cup holder
- Bolt-on Falling object Guarding System (FOGS) capability
- Cab Glass
  - Openable and retractable two- piece front windshield
  - Sky-light, pop-up, polycarbonate
- Coat hook
- Floor mat
- Instrument panel and gauges
- Joysticks, console mounted, pilot operated
- Light, interior
- Literature compartment
- Monitor, full graphic color display
- Neutral lever (lock out) for all controls
- Polycarbonate side windows
- Positive filtered ventilation
- Pressurized cab
- Seat, suspension, with high back and head rest
- Seat belt, retractable – 76 mm (3 in)
- Storage compartment suitable for lunch box cooler
- Sun shade (for skylight)
- Travel control pedals with removable hand levers
- Windows, Polycarbonate (mandatory attachment)
- Windshield wiper and washer (upper and lower)

### Engine/Power Train

- C6.4 with ACERT™ Technology
  - Air intake heater
  - Air-to-air aftercooler (ATAAC)
  - 24 volt electric start
  - HEUI™ injectors
  - 2300 m (7,500 ft) altitude capability without derate
- Automatic engine speed control with one touch low idle
- Cooling
  - Protection of 43° C (110° F) to –18° C (0° F) at 50% concentration
- Straight line travel
- Two-speed auto-shift travel
- Water separator in fuel line

### Undercarriage

- Grease lubricated track
- Hydraulic track adjusters
- Idler and center section track guards
- Long undercarriage

### Other Standard Equipment

- Automatic swing parking brake
- Auxiliary hydraulic valve
- Capability of stackable valves (max of 3) for main valve
- Capability of auxiliary circuit
- Counterweight with lifting eyes
- Door locks, cap locks and Caterpillar® one key security system
- Fine swing control
- Fully pressurized hydraulic system
- Heavy lift
- Mirrors (frame-right, cab left)
- S•O•S<sup>SM</sup> quick sampling valves for engine and hydraulic oil
- Wave fin radiator
- Wiring provision for Product Link

## Optional Equipment

*Optional equipment may vary. Consult your Caterpillar dealer for details.*

### Front Linkage

#### Booms

Reach 5.68 m (18 ft 7 in)

#### Sticks

Reach 2.9 m (9 ft 6 in)

Reach 2.5 m (8 ft 2 in)

### Bucket Linkage

B1 Family

### Boom Lowering Control Device

### Electrical

Light, Boom – Right side

Lights, Cab mounted (2)

Machine Security System (MSS)

Power supply (12V-7 AMP)

Product Link (PL121SR/PL321SR)

Travel Alarm (Mandatory attachment)

### Guarding

Falling Object Guarding System (FOGS)

Front windshield guard

Full length, wire mesh

Heavy-duty bottom guards

Rubber bumpers (Side)

Track guiding guards

Sprocket end, idler end guard

Two-piece full length (center guard removed)

Vandalism guards

### Operator Environment

Hand control pattern changer (ISO-SAE)

Rear window, secondary exit

Sunscreen – roller type

Seat, high back with air suspension and heater

Third pedal, straight travel

Wiper, Lower windshield

Washer, windshield

### Engine/Power Train

### High ambient cooling

For conditions up to 52° C (125° F)

Viscous clutch demand fan

### Prefilter, air

### Starting, Cold weather package

Two additional maintenance free batteries

High capacity starter motor

Heavy-duty cable

Jump-start receptacle

### Water level indicator (Fuel)

### Undercarriage

#### Track shoes

600 mm (24 in) double or triple grouser

700 mm (28 in) double or triple grouser

800 mm (32 in) Heavy-duty triple grouser

### Auxiliary Hydraulics

#### Hammer Circuit

For single function (1 way/2 pump) hydraulic tools

#### Thumb Circuit

For double function (2 way/1 pump) hydraulic tools

#### Tool Control System

For single or double function, (1 or 2 way, 1 or 2 pump) hydraulic tools

Joysticks with additional switches

Program up to 10 tools in memory

Capability of adding medium pressure

Medium pressure circuit for tools requiring medium pressure

Hydraulic pin grabber quick coupler and controller

Lines for booms and sticks

### Work Tools

Wide offering of buckets, tips and sidecutters

# 320D LRR Hydraulic Excavator

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AEHQ5872-04 (12-08)

Replaces AEHQ5872-03

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