

# 345D L

Hydraulic Excavator



With Variable Gauge Undercarriage  
For Europe, Sourced from Gosselies, Belgium

#### Cat® C13 Diesel Engine with ACERT™ Technology

Net Power (ISO 9249) at 1800 rpm	283 kW/385 hp
Operating Weight	49 570 to 52 230 kg
Maximum Travel Speed	4.7 km/h
Maximum Reach	11.7 m
Maximum Digging Depth	7.4 m

# 345D L Hydraulic Excavator

*High performance and rugged durability combine to maximize your productivity.*

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## C13 Engine with ACERT™ Technology

ACERT™ Technology works at the point of combustion to optimize engine performance and provide low exhaust emissions to meet emission regulations, with exceptional performance capabilities and proven reliability. **pg. 4**

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## Structures

Caterpillar® design and manufacturing techniques assure outstanding durability and service life from these important components. **pg. 10**

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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**

***Outstanding performance.*** *Excellent control, high stick and bucket forces, impressive lift capacity, simplified service and a comfortable operator station to increase your productivity and lower your operating costs.*

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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. 5**

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## Application and System Match

The 345D L is designed for matched performance with Cat articulated trucks. Five to six passes under two minutes, matched to the Cat® 735 gives you maximum system production. **pg. 10**

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## SmartBoom™

SmartBoom™ increases productivity through faster cycle times on truck loading and rock scraping applications and maintains optimum hammering frequency for effective, steady productivity. **pg. 5**



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### **Operator Station**

Provides maximum space, excellent visibility and easy access to all switches. The monitor is a full-color graphical display that allows the operator to understand the machine information easily. Overall, the cab provides a comfortable environment for the operator. **pg. 6**

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### **Undercarriage**

Cat designed excavator undercarriage is stable, durable and low maintenance. The undercarriage is a long, variable gauge type for good machine stability and lift capacity. **pg. 8**

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### **Booms, Sticks and Linkage**

Built for good performance and long service life, Cat® booms and sticks are box-section structures with thick multiplate fabrications to resist high stress. Two lengths of booms and four types of sticks are available, offering a range of configurations suitable for a wide variety of applications and conditions. **pg. 9**

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### **Buckets, Quick Coupler, Work Tools**

A variety of work tools, including buckets, couplers, hammers, crushers, pulverizers, multiprocessors, shears and grapples are available through Cat Work Tools. **pg. 11**

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### **Designed for Safety, Cleaner for the Environment**

Quiet operation, safe accessibility and increased visibility help keep operators and job sites safe while lower emissions help protect the environment. **pg. 13**



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### **360° Solutions**

Your Cat dealer offers a wide range of services – from assistance with configuring your machine to best match your application to customer support agreements to meet your maintenance needs. Repair Option Programs guarantee the cost of repairs up front and help you to avoid unscheduled repairs. **pg. 14**

## C13 Engine with ACERT™ Technology

*Built for power, reliability, economy and low emissions.*



**Performance.** The 345D L, equipped with the C13 with ACERT™ Technology provides 18% more power compared to the 345C L. The building blocks of ACERT Technology are fuel delivery, air management, and electronic control – providing better fuel economy and reduced wear.

**Fuel Consumption.** The ADEM™ A4 electronic control module manages fuel delivery to get the best performance per liter or gallon 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.

### **Low Sound and Vibration Levels.**

The engine mounts are rubber-isolating mounts matched with the engine package to provide optimum sound and vibration reduction. Further noise

reduction has been achieved through design changes to the isolated top cover, oil pan, multiple injection strategy, insulated timing cover and sculpted crankcase.

**Emissions.** The 345D equipped with the Caterpillar C13 engine can meet EU Stage IIIA or EU Stage II emissions requirements.

**Fuel System.** The Cat® C13 features electronic controls that govern the mechanically actuated unit fuel injection (MEUI) system. MEUI provides the high-pressure required to help reduce particulate emissions and deliver better fuel economy through finer fuel atomization and more complete combustion.

**Cooling System.** The 345D L layout completely separates the cooling system from the engine compartment. The cooling fan is hydraulically driven with variable speed control based on the

ambient temperature, coolant temperature, and hydraulic oil temperature. This unique feature assists in the management of engine power and improves noise efficiency while providing optimized cooling.

**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.

**Turbocharger.** The Cat C13 engine uses a wastegate turbocharger for improved performance.

- The wastegate valve controls excessive engine boost pressure by allowing exhaust to bypass the exhaust-side turbine.
- The wastegate also reduces turbine wear in high RPM, low load conditions and optimizes air and fuel delivery for peak engine performance.
- The turbocharger increases the density of the air, enabling the engine to produce more power with few effects from altitude.

### **Power Management Modes.**

The Power Modes are selected from the monitor menu. They allow selecting optimal machine performances for each type of application.

- High Power Mode is recommended for applications where high productivity is essential or for hard digging applications.
- Power Management Mode is for applications requiring similar performance as 345C L, but with better fuel efficiency.
- Economy Mode is for applications where fuel economy is a priority over productivity.

The Power Management Mode and Economy Mode performances are achieved through finely tuned hydraulic horsepower and engine RPM management.

# Hydraulics

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

**Pilot System.** The pilot pump is independent from the main pumps and controls the front linkage, swing and travel operations. The pilot control valve operation is proportional to control lever movement, delivering outstanding controllability.

**Component Layout.** The component location and hydraulic system design provide the highest level of system efficiency. The main pumps, control valve and hydraulic tank are located as close to each other as possible. This design makes it possible to use shorter tubes and lines between components, reducing friction losses and pressure drops.

**Heavy Lift Standard.** The operator can select the heavy lift mode at the push of a button to boost lifting capability and provide improved controllability of heavy loads.

**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 Circuits.** A hydraulically operated stick regeneration circuit saves energy and improves multi-function performance during the stick-in operation. New on the 345D L, the boom regeneration circuit is operated electrically, managed by the machine ECM. The system improves cycle times and fuel efficiency, increasing your productivity and reducing operating costs.

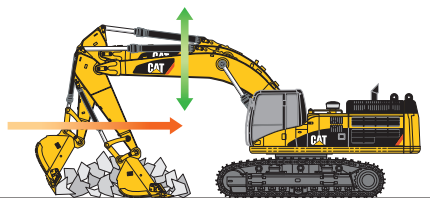
**Boom and Swing Priority.** The hydraulic system on the 345D L provides automatic priority function for boom-up and swing operations eliminating the need for work mode buttons. When the boom or swing lever is activated, the system automatically assigns priority based on operator demand.

**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.

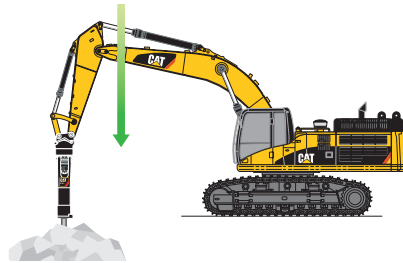
**Auxiliary Hydraulic Valve.** A hydraulically controlled auxiliary valve is standard on the 345D L. Control circuits are available as attachments, allowing operation of high and medium pressure tools such as shears, grapples, hammers, pulverizers, multi-processors and vibratory plate compactors.

# SmartBoom™

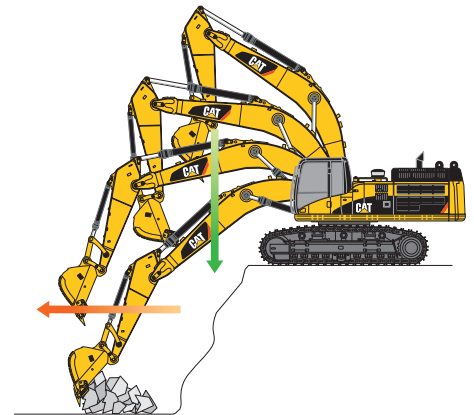
*Reduces stress and vibrations transmitted to the machine.*



**Rock Scraping.** Scraping rock and finishing work is easy and fast. SmartBoom™ simplifies the task by allowing the operator to fully concentrate on stick and bucket manipulation, while the boom is free to move up and down without using implement pump flow.



**Hammer Work.** SmartBoom is operator-friendly and increases productivity in hammering applications. The front parts automatically follow the hammer while penetrating the rock. Blank shots or excessive force on the hammer are avoided resulting in longer life for the hammer and the machine. Similar advantages are applicable when using vibratory plates.



**Truck Loading.** When using SmartBoom, loading trucks from a bench is more productive and more fuel efficient as the return cycle is reduced while the boom down function does not require implement pump flow.

## Operator Station

*Designed for simple, easy operation, the 345D L allows the operator to focus on production.*



**Cab Design.** The workstation is spacious, quiet and comfortable, assuring high productivity during a long work day. The air conditioner and attachment switches are conveniently located on the right-hand wall, and the key switch and throttle dial are on the right-hand console. The monitor is easy to see with excellent visibility.

**Seat.** A high-back, mechanically suspension seat and a heated, air-suspended seat are available on the 345D L. They allow a variety of adjustments to suit the operator's size and weight and provides a comfortable working environment. Wide adjustable armrests and a retractable seatbelt are also included.

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

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

**Climate Control.** Positive filtered ventilation with a pressurized cab comes standard on the 345D L. Fresh air or re-circulated air can be selected with a switch on the left console.

**Windows.** All glass is affixed directly to the cab, eliminating window frames and providing excellent visibility. The upper front windshield opens, closes and stores on the roof above the operator with a one-touch action release system.

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

**Monitor.** The compact, full color graphical monitor, displays machine maintenance, diagnostic and prognostic information, in twenty-seven different languages. The monitor angle can be adjusted to minimize sun glare.

**Cab Exterior.** The exterior design uses thick steel tubing along the bottom perimeter of the cab, improving the resistance of fatigue and vibration. This design allows the FOGS to be bolted directly to the cab, at the factory or as an attachment later, enabling the machine to meet specifications and job site requirements.

**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.

**Travel Controls.** The 345D L uses pilot operated control levers, positioned so the operator can operate with arms on the armrests. The vertical stroke is longer than the horizontal stroke, reducing operator fatigue. The control lever grips are shaped to fit into the operator's hands. The horn switch and one-touch low idle switch are positioned on the left and right grip.

## Electronic Control System

*Manages the engine and hydraulics for maximum performance.*



**Console.** The consoles feature a simple, functional design to reduce operator fatigue, ease of switch operation and excellent visibility. Both consoles have attached armrests with height adjustments.

**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.

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

**Product Link.** Equipment monitoring with access to world-class dealer service. Product Link uses wireless and satellite technology to gather and transmit essential information, related to machine usage, maintenance and location. This information is easily accessible through a secure, web-based application, Equipment Manager.

Depending on your level of subscription, Product Link will:

- Report current equipment parameters (SMU, location, fault codes, etc.)
- Track all elements of machine maintenance and keep machine history
- Predict when a service is needed
- Help you schedule maintenance and order parts more efficiently
- Alert you to potential and immediate problems

**Monitor Display Screen.** The monitor is a full color 400 x 234 pixels Liquid Crystal Display (LCD) graphic display. The Master Caution Lamp blinks ON and OFF when one of these critical conditions occur:

- Engine oil pressure low
  - Coolant temperature high
  - Hydraulic oil temperature high
- Under the normal conditions or the default condition, the monitor display screen is divided into four areas: clock and throttle dial area, gauge area, event display area and multi-information display area.

**Power Management Modes.** The power modes – Economy, Power Management, High Power – are selected from the monitor menu. The selection of individual power modes allows a user to match machine performance to application requirements, enabling the operator to select a mode for optimal performance with lower fuel consumption.

**Fuel Consumption.** The 345D L provides instant fuel consumption on the monitor.

**Clock and Throttle Dial Area.** The clock, throttle dial position and green gas-station icon are displayed in this area.

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

**Event Display Area.** Machine information is displayed in this area with the icon and language.

**Multi-information Display Area.** This area is reserved for displaying information that is convenient for the operator. The "CAT" logo is displayed when no information is available to be displayed.



## Undercarriage

*Durable undercarriage absorbs stresses and provides excellent stability.*



**Undercarriage Options.** The 345D L comes standard with a grease lubricated track called GLT4. The track links are assembled and sealed with grease to decrease internal bushing wear, reduce travel noise, and lower operating costs by extending service life. Track with Positive Pin Retention 2 (PPR2) and Cast Idlers are available as attachments on the 345D L.

The PPR2 prevents loosening of the track pin from the track link and the Cast Idler is designed for extended life. Both options are ideal for extreme applications such as working on blasted rock or those that require a large amount of travel.

**Travel Motors.** Two-speed axial piston hydraulic motors provide the 345D L drive power and speed selection. When the high-speed position is selected, the machine automatically changes between computer-controlled high and low speeds depending on drawbar-pull requirements.

**Straight-line Travel Circuit.** The straight-line travel circuit is incorporated into the hydraulic system, which maintains low-speed, straight-line travel, even when operating the front linkage.

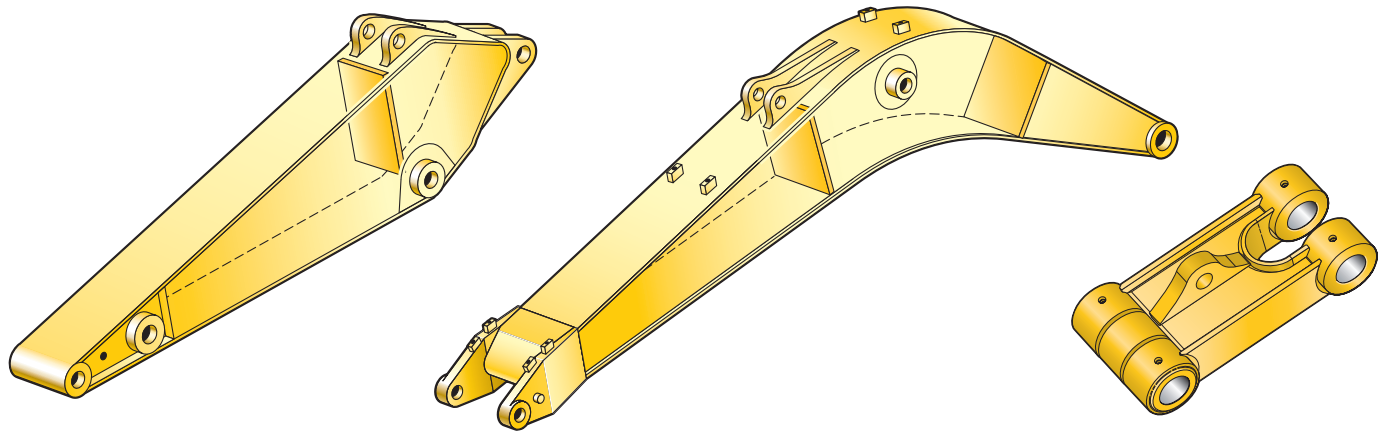
**Final Drive.** The final drives are a three-stage planetary reduction. This design results in a complete drive/brake unit that is compact and delivers excellent performance and reliability.

**Track Guards.** The idler guard and bolt-on center guard are standard equipment. They help maintain track alignment while traveling or working on slopes. For applications that require additional track protection or alignment, optional full length guards are available.



## Booms, Sticks and Linkage

*Designed for maximum flexibility to keep productivity and efficiency high on all jobs.*



**Front Linkage Attachments.** Select the right combination of front linkage with your Cat dealer to ensure high productivity from the very start of your job. Two types of booms and four sticks are available, offering a range of configurations suitable for a wide variety of applications and offer a large combination of reach and digging forces for optimum versatility. All booms and sticks undergo a stress relieving process for greater durability.

**Boom Construction.** The 345D L booms have large cross-sections and internal baffle plates to provide long life and durability. Castings and forgings are used in critical high-load areas such as the boom-foot and boom cylinder connection.

**Heavy Duty Reach Boom.** The 6900 mm HD Reach boom is designed to balance reach, digging force and bucket capacity. The HD Reach Boom is ideal for a wide range of applications.

**Mass Excavation Boom.** The 6550 mm Mass boom is designed to provide maximum digging forces, bucket capacity and truck loading productivity. The Mass boom comes with two stick options for further job site versatility.

**Stick Construction.** The 345D L sticks are made of high-tensile strength steel, using a large box section design, interior baffle plates and an additional bottom guard to protect against damage. The Quarry stick provides reinforcement bars on the stick.

**Mass Sticks.** Two Mass Quarry sticks are available for higher digging forces and increased bucket capacity. Mass sticks use UB-family bucket linkage and buckets.

- **M2.5UB.** The 2500 mm stick is intended for mass excavation applications with very large buckets with high force requirements.
- **M3.0UB.** The 3000 mm stick provides excellent digging envelope with large bucket capacity and high force levels.

**Reach Sticks.** Two lengths of reach sticks are available to suite a variety of applications. Reach sticks use the TB-family bucket linkage and buckets.

- **R2.9TB.** The 2900 mm stick has a good digging envelope and handles large bucket sizes.
- **R3.35TB.** The 3350 mm stick offers the most versatility and is suited to all types of applications and bucket capacities.

**Power Link.** The 345D L power link improves durability, increases machine-lifting capability in key lifting positions, and is easier to use compared to the previous lift bar designs.

**Linkage Pins.** All pins used in front linkages have thick chrome plating, giving them high wear and corrosion resistance. The large diameter pins smoothly distribute the shear and bending loads to help ensure long pin, boom and stick life.

## Structures

*The 345D L structural components are the backbone of the machine's durability.*

**Carbody.** The carbody utilizes a columnless design that allows the swing bearing to be directly mounted on the top plate for excellent rigidity and strength.

The advanced carbody design stands up to the toughest applications.

- Modified H-shaped, box-section carbody provides excellent resistance to torsional bending.
- Robot-welded track roller frames with fabricated U-section design.

- Robot welding ensures consistent, high-quality welds throughout the manufacturing process.

**Upper Frame.** The rugged main frame is designed for maximum durability. Robot welding is used for consistent, high-quality welds. The main channels are box sections connected by a large diameter tube in the boom foot area to improve rigidity and strength. The outer frame utilizes curved side rails for rigidity against bending and torsional loads.

**Track Roller Frame.** Uses a press-formed, pentagonal section for the track frame that is robot-welded for weld consistency and quality. The track frame has been designed so that the top of the track frame has a steep angle to help prevent accumulation of mud and debris.

## Applications and Systems Match

*The 345D L is designed for matched performance with Cat Articulated Trucks.*

### **Wide Range of Front End Attachments.**

The ability to select different front-end attachments provides adaptability for a wide range of job conditions in a variety of applications such as construction, mining, or quarry. Depending on the front-end configuration, and material density, the 345D L can be matched with the 730 to 740 articulated trucks. Additionally, systems match offers versatility in job set-up whether top loading or same level truck loading.

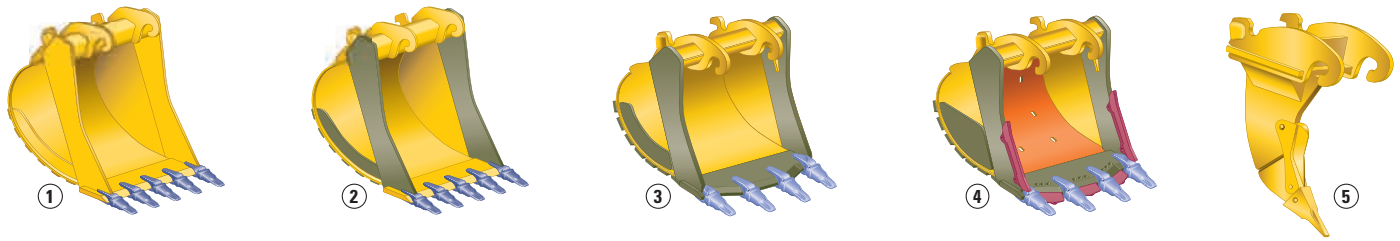
**Optimum Pass Match Design.** Five to six passes under two minutes, matched to the Cat 735, gives you maximum system production at the lowest cost per ton of material moved.

**Maximum Availability.** New standards for durability and reliability help ensure that your loading system has more uptime, operates efficiently and provides lasting value and high resale.



## Work Tools

The 345D L has an extensive selection of buckets and work tools to optimize machine performance.



**Rationalized Bucket Line.** Optimized design matches machine configuration perfectly. Improved balance between performance and durability. Buckets feature the new Caterpillar K Series Tooth System.

**1 Excavation (X).** Digs and loads soft to medium materials such as clay and earth. Features weld on tip adapters, wear resistant steel alloy cutting edge and wear plates, and high grade steel side bars.

**2 Extreme Excavation (EX).** Digs and loads compact/abrasive materials like earth/rock, sand/clay, sand/gravel, coal, chalk and low abrasion ores. Features bigger ground engaging tools, plus all wear resistant steel alloy cutting edge, wear plates and side bars.

**3 Rock (R).** Digs and loads mixed earth/rock soils containing high percentage of rock or other abrasive materials. Features V-spade cutting edge, thicker base and wear surfaces.

**4 Heavy Duty Rock (HDR).** For aggressive bucket digging and loading in highly abrasive applications such as granite and basalt. Features V-spade cutting edge and extreme wear package.

Differences from rock buckets:

- Highest durability due to extreme wear package;
- Side wear plates are thicker and extend further up to the bucket;
- Inside wear package (liner) made of high strength, 500 Brinell, wear resistant steel alloy;
- Standard equipped with sidebar protectors and edge segments to extend bucket lifetime.

Other buckets and teeth are available from Caterpillar for use in quarry, high abrasion, and special applications. Ask your dealer representative to recommend the optimum solution for your material and operation.

**5 Ripper.** The Caterpillar TR-series rippers are available for use with CW-series quick couplers, or to attach directly to the stick and linkage. The ripper provides a

powerful single point of penetration force to break out rock and other difficult to excavate material. In order to break into the toughest ripping applications a short ripper is available. Usage with the quick coupler and a compatible rock bucket facilitates the “Rip & Load” technique to supplement or replace blasting to prepare rock material prior to truck loading.

**Quick Couplers.** Caterpillar quick couplers enable the operator to simply release one work tool and pick up another. Your hydraulic excavator becomes highly versatile. The dedicated CW-Series quick coupler enables a quick tool exchange while maintaining top machine performance. A lifting hook is added for maximum lift capacity.

**Variety of work tools.** Choose from a variety of work tools such as hammers, crushers, pulverizers, shears, multi-processors and grapples. Ask your Cat dealer for information on attachments or special configurations.

# Bucket Specifications

Without Quick Coupler	Linkage	Width	Weight*	Capacity (ISO)	ME boom 6550 mm		Reach boom 6900 mm	
		mm	kg	m <sup>3</sup>	M2.5UB	M3.0UB	R2.9TB	R3.35TB
Excavation (X)	TB	1500	2237	2.2	×	×		
	UB	1500	2498	2.8			×	×
	UB	1700	2701	3.2			×	×
	UB	1900	2860	3.6			×	×
Extreme Excavation (EX)	TB	1600	2428	2.4	×	×		
	TB	1650	2474	2.6	×	×		
	TB	1750	2562	2.8	×	×		
	UB	1550	2810	2.8			×	×
	UB	1750	3030	3.2			×	×
Rock (R)	UB	1850	3100	3.4			×	×
	TB	1500	2483	2.2	×	×		
	TB	1550	3084	2.8	×	×		
	UB	1450	3005	2.6			×	×
	UB	1550	3080	2.8			×	×
Heavy Duty Rock (HDR)	UB	1700	3250	3.2			×	×
	UB	1450	3336	2.6			×	×
UB	1550	3480	2.8			×	×	
Maximum load in kg (payload plus bucket)					7550	6790	6830	6930
<b>With Quick Coupler CW-55</b>								
Excavation (X)	TB	1500	2173	2.2	×	×		
Extreme Excavation (EX)	TB	1500	2313	2.2	×	×		
	TB	1750	2574	2.8	×	×		
	UB	1400	1680	2.4			×	×
	UB	1550	2780	2.8			×	×
	UB	1750	3005	3.2			×	×
	UB	1850	3160	3.4		×	×	×
Rock (R)	TB	1380	2372	2.0	×	×		
	UB	1450	2995	2.6			×	×
	UB	1550	3055	2.8			×	×
	UB	1700	3236	3.2			×	×
Heavy Duty Rock (HDR)	UB	1450	3271	2.6			×	×
	UB	1750	3295	3.2			×	×
Maximum load in kg (payload plus bucket)					7550	6790	6830	6930

\* Bucket weight including K Series Penetration Plus tips  Max. Material Density 1200 kg/m<sup>3</sup>  Max. Material Density 1500 kg/m<sup>3</sup>  Max. Material Density 1800 kg/m<sup>3</sup> × Not compatible

## Work Tools Matching Guide

When choosing between various work tool models that can be installed onto the same machine configuration, consider work tool application, productivity requirements, and durability. Refer to work tool specifications for application recommendations and productivity information.

	Stick length (mm)	Without Quick Coupler				With Quick Coupler CW-55			
		Reach boom 6900 mm		ME boom 6550 mm		Reach boom 6900 mm		ME boom 6550 mm	
		2900	3350	2500	3000	2900	3350	2500	3000
Ripper	TR-55								
Multiprocessor	MP30 CC, CR, PP, PS, S, TS								
	MP40 CC, CR, PS, S	N	N		N	N	N	N	N
Crusher and Pulverizer	VHC-50								
	VHC-60		N			N	N		N
	VHP-50								
	VHP-60	N	N		N	N	N	N	N
Hydraulic Shear	S340					N	N		
	S365B*, S385B*					N	N	N	N
Mechanical Grapple	G140								
Demolition and Sorting Grapple	G330								
Hydraulic Hammer	H160D S, H180 S								

\* Boom mounted  360° Working Range  Over the front N Not recommended

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## Designed for Safety

*Cat machines are designed to keep operators and jobsites safe.*

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**Visibility.** An optional Rear vision camera and Work Area Vision System can be installed improving safety for the operator, as well as other machines and personnel working around the excavator.

**Lights.** Thirty-five Watt HID lights (optional) can replace the standard high beam 65 Watt Halogen lights. The powerful HID lights are almost two times brighter and 50 percent more efficient, improving night time visibility and low light conditions.

**Safe Access.** Handrails and anti-slip surfaces are designed for safe access on and off Cat machines. Daily maintenance service checks are easily accessible at ground level. An emergency escape is accessed through the rear window.

**Safety Alarm.** If an abnormality occurs, the warning information window is displayed on the monitor. If the abnormality is urgent, the master light blinks and an alarm activates, alerting the operator to take immediate action.

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## Cleaner for the Environment

*Caterpillar has long invested in technology, products and services that reduce the impact of earthmoving equipment on the environment.*

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**Emissions.** With ACERT Technology to lower emissions, the C13 engine improves maintenance costs through less engine wear and less oil consumption. This engine can use up to B30 biodiesel to further reduce emissions on the jobsite.

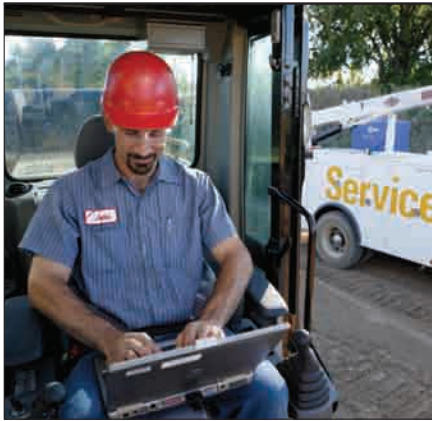
**Fuel Management.** A fuel consumption display allows the operator to monitor their fuel consumption. Three Power Management Modes allow the operator to select a mode for optimal performance with lower fuel consumption.

**Fluids.** Extended service and maintenance intervals increase machine availability and reduce the frequency of fluid handling. Cat HEES biodegradable hydraulic oil is fully decomposed by soil or water microorganisms for a cleaner jobsite.

**Cat Reman Parts.** We recycle used products into "like-new" Cat Reman products that offer the same performance and quality as new parts at a fraction-of-new price. Environmentally reconditioned reman parts are available for this machine.

## Service and Maintenance

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



**Extended Service Intervals.** Extended service and maintenance intervals increase machine availability. The maintenance intervals for engine oil, engine oil filter and water separator for fuel line have been extended to 500 hours, hydraulic oil to 2000 hours for normal applications with S•O•S<sup>SM</sup> analysis monitoring.

**Capsule Filter.** The hydraulic return filters are located in the hydraulic tank. The filter elements are removable without spilling hydraulic oil.

**Pilot Hydraulic System Filter.** The pilot hydraulic system filter keeps contaminants from the pilot system and is located in the pump compartment.

**Radial Seal Main Air Cleaner.** The radial seal main air cleaner with pre-cleaner has a double-layered filter element for more efficient filtration. No tools are required to change the element.

**Fuel-Water Separator.** The water separator has a primary fuel filter element and is located in the battery compartment for easy access from the ground.

**Service Points.** Service points are centrally located with easy access to facilitate routine maintenance.

**Oil Sample and Pressure Ports.** Oil sample and pressure ports provide easy checking of machine condition and are standard on every machine.

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

**Electric Priming Pump.** An electric fuel-priming pump replaces the engine-mounted manual fuel-priming pump and the control switch is located in the rear left compartment close to the air filter for easy access.



## 360° Solutions

*Your 360° Solutions package consists of four elements, tailored to your needs.*



### **The right machine for your business.**

Your Cat dealer will guide you through your machine selection process, helping you choose the right machine for your specific industry and applications.

**The most attractive finance package from Cat Financial.** Cat Financial specialises in equipment financing and has a reputation as a trusted partner. Whatever your business, your Cat dealer and Cat Financial offer a range of flexible, highly competitive financial solutions for new Cat machines, making it faster and easier to obtain the Cat equipment you need.

**The most cost-effective Cat Customer Support Agreement.** Cat Customer Support Agreements are the most effective way of running your machine at peak performance and eliminating the risk, cost, disruption and loss of revenue caused by unscheduled downtime.

**The most beneficial Cat Warranty.** The warranty coverage from your Cat dealer is backed by the worldwide resources of Caterpillar and is specifically designed to provide the highest levels of repair cost protection for Cat machines. This comprehensive coverage will enhance and sustain your entire ownership experience and provide complete peace of mind.

Cat experts are always available to help you make the decisions that are best for your business.

## Engine

Cat C13 with ACERT Technology

Net Power at 1800 rpm

ISO 9249	283 kW/385 hp
EEC 80/1269	283 kW/385 hp
Bore	130 mm
Stroke	157 mm
Displacement	12.5 liters
Cylinders	6

- The C13 engine can meet Stage IIIA or Stage II emission requirements.
- All engine horsepower (hp) are metric including front page.
- 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 altitude.

## Brakes

Meets the standard ISO 10265:1998

## Track

Track width with long undercarriage:

Double grouser, heavy duty

600 mm and 750 mm

Triple grouser, heavy duty

600 mm, 750 mm and 900 mm

Number of shoes each side 52

Number of rollers each side 9

Number of carrier rollers each side 2

## Sound

For EU Regulated countries

### Operator Sound

- The operator sound level measured according to the procedures specified in ISO 6394:1998 is 76 dB(A), for cab offered by Caterpillar, when properly installed and maintained and tested with the doors and windows closed.

### Exterior Sound

- The labeled spectator sound power level measured according to the test procedures and conditions specified in 2000/14/EC is 107 dB(A).

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.

## Cab/FOGS

Cab/FOGS meets ISO 10262.

## Drive

Maximum Travel Speed 4.7 km/h

Maximum Drawbar Pull 338 kN

## Swing Mechanism

Swing Speed 8.9 rpm

Swing Torque 149 kNm

## Hydraulic System

Main System

Maximum flow 734 l/min

Maximum pressure

Normal 350 bar

Heavy lift 380 bar

Travel 350 bar

Swing 314 bar

Pilot System

Maximum flow 43 l/min

Maximum pressure 41 bar

Boom Cylinder

Bore 160 mm

Stroke 1575 mm

Stick Cylinder

Bore 190 mm

Stroke for reach front 1778 mm

Stroke for ME front 1758 mm

TB Family Bucket Cylinder

Bore 160 mm

Stroke 1356 mm

UB Family Bucket Cylinder

Bore 170 mm

Stroke 1396 mm

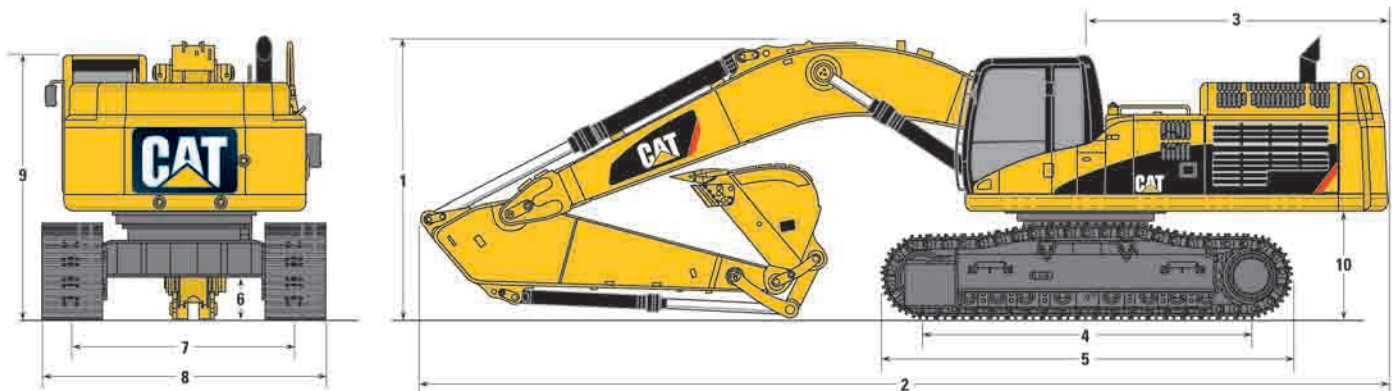
Main normal relief pressure 350 bar

## Service Refill Capacities

	Liters
Fuel Tank	710
Cooling System	71
Engine Oil	42
Swing Drive (each)	10
Final Drive (each)	15
Hydraulic system (including tank)	570
Hydraulic tank	262

## Dimensions

All dimensions are approximate.



		HD Reach Boom		ME Boom			
		6900		6550		mm	
Boom	mm	6900		6550		<b>3</b> Tail swing radius	3770
Stick	mm	2900	3350	2500	3000	<b>4</b> Length to centers of rollers	4340
<b>1</b> Shipping height	mm	3730	3790	4000	4040	<b>5</b> Track length	5330
<b>2</b> Shipping length	mm	11 840	11 850	11 610	11 530	<b>6</b> Ground clearance	710
						<b>7</b> Track gauge	2890/2390
						<b>8</b> Track width	
						with 600 mm shoes	3490/2990
						with 750 mm shoes	3640/3140
						with 900 mm shoes	3790/3290
						<b>9</b> Cab height	3360
						<b>10</b> Counterweight clearance	1430

## Machine and Major Component Weights

Actual weights and ground pressures will depend on final machine configuration.

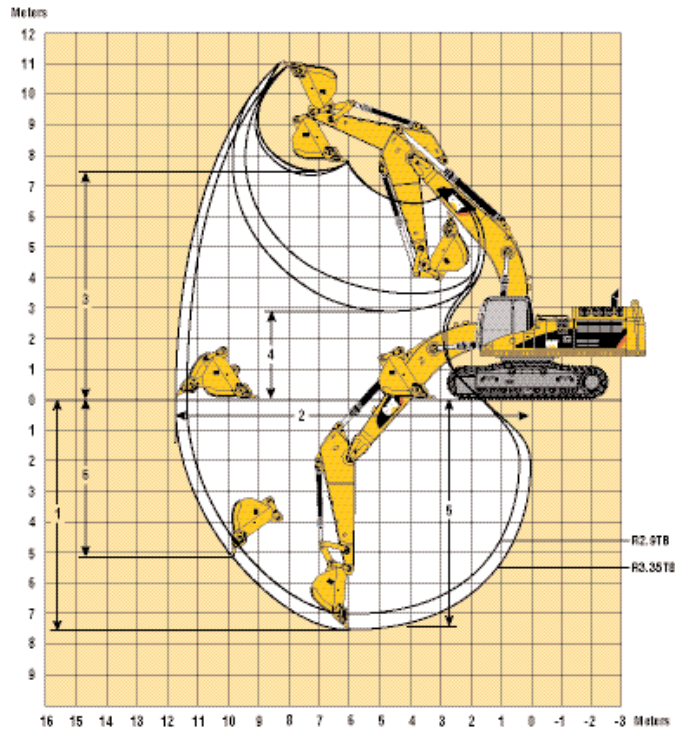
		HD Reach boom 6900 mm		ME boom 6550 mm	
		R2.9TB	R3.35TB	M2.5UB	M3.0UB
Stick type					
Operating weight*					
with 600 mm shoes	kg	49 570	49 610	50 650	50 830
with 750 mm shoes	kg	50 220	50 260	51 300	51 480
with 900 mm shoes	kg	50 970	51 010	52 050	52 230
Stick length	mm	2900	3350	2500	3000
Bucket weight	kg	2570		3260	
Bucket capacity	m <sup>3</sup>	2.8		3.2	
Bucket width/type	mm	1750/EX		1750/EX, 1750/R	
Stick weight (with bucket cylinder)	kg	1950	1990	2190	2370
Boom weight (with stick cylinder)	kg	4590		4600	
Boom cylinders (pair)	kg	800			
Upper structure**	kg	12 440			
Undercarriage with 600 mm shoes	kg	17 790			
Counterweight	kg	9040			

\* With counterweight, operator and full fuel.

\*\* Without counterweight.

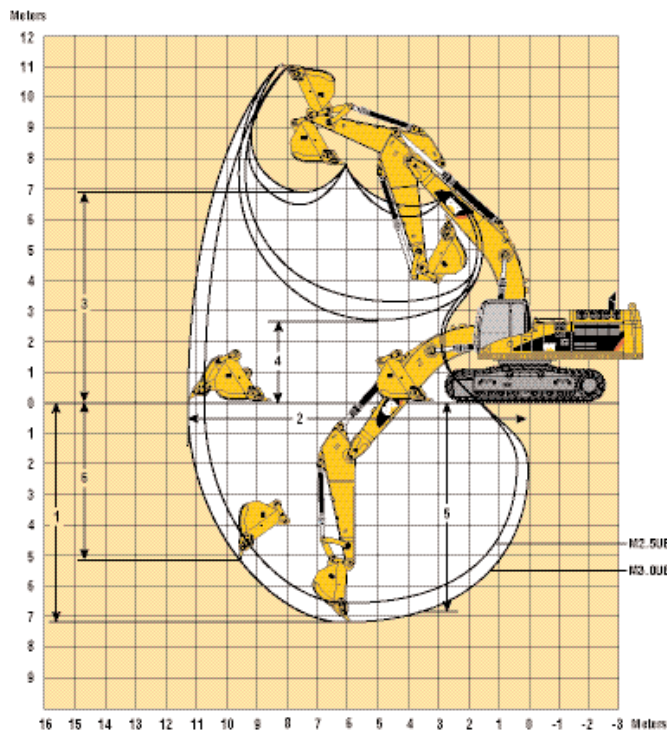


# Working Ranges



## Heavy Duty (HD) Reach boom configuration (6900 mm)

		R2.9TB	R3.35TB
Stick Length	mm	2900	3350
<b>1</b> Maximum Digging Depth	mm	7041	7419
<b>2</b> Maximum Reach at Ground Level	mm	11 284	11 703
<b>3</b> Maximum Loading Height	mm	7403	7580
<b>4</b> Minimum Loading Height	mm	3411	2913
<b>5</b> Maximum Digging Depth 2440 mm Level Bottom	mm	6879	7344
<b>6</b> Maximum Vertical Wall Digging Depth	mm	4888	5296
Bucket Capacity	m <sup>3</sup>	2.8	2.8
Bucket Radius at Cutting Edge	mm	1704	1704
Bucket digging Force (ISO)	kN	249	239
Stick digging Force (ISO)	kN	235	217



## Mass Excavation (ME) boom configuration (6550 mm)

		M2.5UB	M3.0UB
Stick Length	mm	2500	3000
<b>1</b> Maximum Digging Depth	mm	6606	7106
<b>2</b> Maximum Reach at Ground Level	mm	10 752	11 216
<b>3</b> Maximum Loading Height	mm	6733	6925
<b>4</b> Minimum Loading Height	mm	3270	2770
<b>5</b> Maximum Digging Depth 2440 mm Level Bottom	mm	6435	6954
<b>6</b> Maximum Vertical Wall Digging Depth	mm	3921	4358
Bucket Capacity	m <sup>3</sup>	3.2	3.2
Bucket radius at Cutting edge	mm	1862	1862
Bucket digging Force (ISO)	kN	275	261
Stick digging Force (ISO)	kN	259	234

# Lift Capacities

All weights are in kg. With Heavy Lift on. Counterweight 9040 kg.















## HD Reach Boom 6900 mm

**Stick**  
2900 mm

**Shoes**  
600 mm

**Bucket Capacity**  
2.8 m<sup>3</sup>

**Bucket Weight**  
2567 kg

	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m					
													m	
9.0 m												*4710	*4710	9.07
7.5 m							*8990	*8990				*4530	*4530	10.09
6.0 m							*9610	*9610	*8750	6950		*4530	*4530	10.74
4.5 m			*17 560	*17 560	*12 990	*12 990	*10 610	9660	*9190	6820		*4670	4480	11.09
3.0 m			*21 600	20 780	*14 990	13 270	*11 700	9190	*9750	6600		*4950	4270	11.19
1.5 m			*17 370	*17 370	*16 490	12 460	*12 610	8740	*10 220	6370		*5390	4290	11.05
0 m			*19 970	18 830	*17 110	11 980	*13 070	8430	10 330	6200		*6060	4570	10.65
-1.5 m	*14 180	*14 180	*21 790	18 840	*16 800	11 810	*12 890	8290	*9980	6140		*7100	5190	9.97
-3.0 m	*20 290	*20 290	*20 330	19 140	*15 470	11 900	*11 800	8340				*6830	6450	8.93
-4.5 m	*21 310	*21 310	*16 610	*16 610	*12 670	12 240								















## HD Reach Boom 6900 mm

**Stick**  
3350 mm

**Shoes**  
600 mm

**Bucket Capacity**  
2.8 m<sup>3</sup>

**Bucket Weight**  
2567 kg

	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m					
													m	
9.0 m												*3930	*3930	9.6
7.5 m									*6060	*6060		*3780	*3780	10.55
6.0 m							*9040	*9040	*8270	7090		*3780	*3780	11.17
4.5 m					*12 230	*12 230	*10 100	9800	*8800	6920		*3900	*3900	11.51
3.0 m			*20 450	*20 450	*14 360	13 510	*11 280	9300	*9440	6670		*4150	3960	11.6
1.5 m			*21 390	*19 760	*16 090	12 640	*12 310	8830	*10 010	6410		*4530	3970	11.47
0 m	*7060	*7060	*20 930	*19 020	*16 990	12 080	*12 940	8470	*10 330	6210		*5120	4200	11.09
-1.5 m	*13 470	*13 470	*22 730	*18 860	*16 980	11 820	*12 980	8280	*10 170	6100		*6010	4730	10.44
-3.0 m	*20 460	*20 460	*21 350	*19 040	*15 980	11 820	*12 210	8260	*9070	6150		*7190	5760	9.46
-4.5 m	*21 850	*21 850	*18 100	*18 100	*13 700	12 080	*10 050	8480						
-6.0 m			*12 520	*12 520	*8880	*8880								















## Mass Boom 6550 mm

**Stick**  
2500 mm

**Shoes**  
600 mm

**Bucket Capacity**  
3.2 m<sup>3</sup>

**Bucket Weight**  
3258 kg

	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m					
													m	
9.0 m												*5540	*5540	8.28
7.5 m							*9140	*9140				*5270	*5270	9.41
6.0 m							*9560	9360				*5250	5000	10.11
4.5 m			*17 510	*17 510	*12 870	*12 870	*10 440	9070	*9000	6080		*5420	4420	10.48
3.0 m			*21 290	20 350	*14 750	12 810	*11 440	8650	*9430	5950		*5770	4180	10.57
1.5 m			*19 080	18 810	*16 100	12 010	*12 220	8240	*9750	5780		*6330	4230	10.4
0 m			*22 950	18 330	*16 560	11 530	*12 520	7950	*9640	5660		*7190	4610	9.94
-1.5 m	*15 980	*15 980	*21 550	18 410	*16 010	11 400	*12 070	7860				*7490	5490	9.17
-3.0 m	*24 550	*24 550	*18 890	18 840	*14 230	11 570	*10 240	8000						
-4.5 m			*14 190	*14 190	*10 170	*10 170								















## Mass Boom 6550 mm

**Stick**  
3000 mm

**Shoes**  
600 mm

**Bucket Capacity**  
3.2 m<sup>3</sup>

**Bucket Weight**  
3258 kg

	3.0 m		4.5 m		6.0 m		7.5 m		9.0 m					
													m	
9.0 m												*4060	*4060	8.89
7.5 m							*8280	*8280				*3850	*3850	9.93
6.0 m							*8820	*8820	*7230	6210		*3830	*3830	10.59
4.5 m					*11 950	*11 950	*9780	9150	*8460	6160		*3970	3950	10.94
3.0 m			*19 990	*19 990	*13 960	12 980	*10 880	8690	*9010	5970		*4250	3730	11.03
1.5 m			*22 560	19 220	*15 570	12 100	*11 810	8230	*9470	5750		*4710	3760	10.86
0 m			*23 130	18 420	*16 350	11 520	*12 320	7890	*9620	5580		*5420	4070	10.43
-1.5 m	*15 050	*15 050	*22 240	18 290	*16 160	11 280	*12 160	7720	*9070	5520		*6530	4780	9.7
-3.0 m	*24 190	*24 190	*20 040	18 560	*14 840	11 340	*10 960	7770						
-4.5 m	*21 480	*21 480	*16 070	*16 070	*11 770	11 720								

 Load Point Height

 Load Radius Over Front

 Load Radius Over Side

 Load at Maximum Reach

\* Limited by hydraulic rather than tipping load.

The above loads are in compliance with hydraulic excavator lift capacity ratings standard ISO/DIS 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.

## Standard Equipment

Standard equipment may vary. Consult your Caterpillar dealer for specifics.

### Electrical

Alternator – 75 amp  
Cat batteries  
Lights, cab interior  
Lights, cab mounted  
Signal/warning horn  
Starting, cold weather (two additional batteries)  
Travel alarm

### Engine

Auto Lube ready  
Automatic engine speed control  
Automatic swing parking brake  
Auxiliary hydraulic valve  
Cat® C13 with ACERT™ Technology  
Fuel Filter  
Fine swing control  
Heavy lift mode  
High ambient cooling, 52°C capability  
Muffler  
S•O•S<sup>SM</sup> sampling for Engine and Hydraulic systems  
Two speed auto-shift travel

Variable speed cooling fan  
Water level indicator  
Water separator in fuel line

### Operator Station

Adjustable armrest  
Air conditioner, with auto climate control and defroster  
Ashtray with lighter  
Beverage/cup holder  
Bolt-on FOGS capability  
Coat hook  
Electrical provision for seat heater  
Floor mat  
Instrument panel and gauges  
Joystick, Thumb wheel, Four button  
Literature compartment  
Mirrors (Frame-right, Cab-left)  
Neutral lever for all controls  
Positive filtered ventilation  
Rear window, emergency exit  
Seat belt, retractable, 51 mm width  
Sliding upper door window

Skylight (polycarbonate), openable  
Storage compartment suitable for a lunch box, with cover  
Sunshade for windshield and skylight  
Travel control pedals with removable hand levers  
Windshield wipers and washers

### Undercarriage

Variable gauge  
Guards  
Heavy Duty Track Motor Guards  
Swivel Guard  
Track  
Grease lubricated track  
Hydraulic track adjusters  
Idler and center section track guiding guards  
Track type sealed undercarriage

### Other Standard Equipment

Caterpillar one key security system  
Counterweight 9040 kg with lifting hook  
Product Link

## Optional Equipment

Optional equipment may vary. Consult your Caterpillar dealer for specifics.

### Engine

Precleaner  
Terminal, jump start

### Front Linkage

Booms  
Heavy Duty Reach 6900 mm  
Mass Excavation 6550 mm  
Buckets (see pages 11, 12)  
Bucket linkage  
TB family for TB sticks  
UB family for UB sticks  
Bucket tips and sidecutters  
Edge protectors  
Check valves  
Boom lowering  
Stick lowering  
Sticks  
R2.9TB Reach  
R3.35TB Reach  
M2.5UB Mass  
M3.0UB Mass

### Guards

Falling Object, for cab  
Front Windshield  
Track guiding, full length

### Hydraulics

Auxiliary boom lines  
Auxiliary stick lines  
Control, single action  
Circuit, cooling  
Control, combined  
Control, medium pressure  
Pedal, tool modulation  
Quick coupler universal circuit  
Tool selection (via monitor 10 tools)

### Operator Station

Joysticks  
Four button joystick for standard machine or single action auxiliary control  
Thumb wheel modulation joystick for use with combined auxiliary control  
Radio, AM/FM radio mounted in right hand console  
Radio ready mounting at rear location including 24 V to 12 V converter  
Seat  
Adjustable high-back seat with mechanical suspension

Adjustable high-back heated seat with air suspension  
Straight travel pedal  
Sun Screen

### Undercarriage

Idler, Cast  
Track, GLT4  
600 mm double grouser shoes  
750 mm triple grouser shoes  
900 mm, triple grouser shoes  
Track, PPR2  
600 mm double grouser shoes  
750 mm triple grouser shoes

### Other Optional Equipment

Converters, 7 amp-12V (one or two)  
High intensity discharge lights  
Rear View Camera  
Security System, Machine (MSS)  
WAVS Camera ready  
Windshield  
1-piece standard duty  
1-piece high impact resistant  
50-50 split, sliding  
70-30 split, sliding

# 345D L Hydraulic Excavator

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com)

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

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HEHH3722 (05/2008) hr

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