

# 319D L / LN

Hydraulic Excavator

**CATERPILLAR®**



**Cat® C4.2 Engine with ACERT™ Technology**

Net Power (ISO 9249) at 2200 rpm

93 kW/126 hp

**Weight**

Operating Weight Range

19 100 to 20 100 kg

*Long Undercarriage, One-piece Boom,  
2700 mm Stick, 600 mm Shoes.*



## 319D Features

### Efficient Hydraulic System

*The 319D takes benefit of major changes about its hydraulic system that improve its efficiency and ease of operation.*

### Low Emission Engine

*Meet EU Stage IIIA emission regulations, keep the same performance level and use less fuel with the Cat ACERT engine.*

### Maximum Versatility

*Easily configure a large variety of work tools with the Cat Tool Control System.*

### Proven Reliability

*Caterpillar design and manufacturing techniques provide maximum uptime with outstanding durability and service life.*

### Comfortable Operator Station

*Let's work on best conditions and focus on production with the new ergonomic cab.*



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**New performing engine, optimized hydraulics and redesigned operator station make the 319D an easy performing machine with reduced operating costs.**

# Operator Station

New levels of comfort, visibility and operation.

## Cab

Experience a spacious, quiet and comfortable operator station. The cab is pressurized to 0,5 bar to reduce the amount of dust that enters the cab, keeping the operator comfortable the entire shift, while assuring high productivity during long work days.

- The comfortable seat adjusts to suit the operator's size and weight. Available as an option is the air suspension and / or heating seat.
- Air conditioning with automatic climate control adjusts temperature and airflow.
- Low effort joystick controls are designed to match the operator's natural wrist and arm position. Joysticks can be operated with arms on the armrest. The horizontal and vertical strokes are designed to reduce fatigue.
- Improved up-front visibility and increased windshield options bring real benefits to the new cab.

## Prestart Check and Monitor Display

Prior to starting the machine, the system checks for low engine oil, hydraulic oil and engine coolant fluid levels and warns the operator through a color Liquid Crystal Display (LCD) monitor. The LCD monitor displays vital operating and performance information, in 27 different languages, for operator convenience.

## Cab Exterior

The 319D provides a new cab design that allows the Falling Object Guard System (FOGS) to be bolted directly to the cab, at the factory or as an attachment, enabling the machine to meet specifications and job site requirements. The cab shell is attached to the frame with viscous rubber cab mounts that dampen vibrations and sound levels to enhance operator comfort. Timer Delay is a new option that let the external cab light on to let the operator leave the machine in safe conditions.

## Machine Security System

An optional Machine Security System (MSS) utilizes a programmable key, deterring theft, vandalism and unauthorized usage. MSS uses electronically coded keys selected by the customer to limit usage by individuals or time parameters.







# Engine

Clean, quiet operation and superior power with ACERT Technology.

The Cat C4.2 engine with ACERT Technology optimizes performance and meets EU Stage IIIA regulations. In conjunction with integrated electronics, ACERT Technology reduces emissions during the combustion process by using advanced technology in the air and fuel systems. The Cat C4.2 engine has five percent more power than the former engine, allowing for more hydraulic pressure and increased productivity.

## **Automatic Engine Control and Fuel Delivery**

A three-stage control with one-touch command maximizes fuel efficiency and reduces sound levels. Fuel delivery is managed by the ADEM™A4 Engine Controller for the best performance per liter of fuel used. Flexible fuel mapping allows the engine to respond quickly to varying application needs. Electronic controls govern the fuel injection system. Multiple injection fuel delivery involves a high level of precision and by precisely shaping the combustion cycle lowers combustion chamber temperatures, generates fewer emissions and optimizes fuel combustion. This means more work output for your fuel cost.

## **Crankshaft and Pistons**

A forged, one-piece, induction hardened crankshaft enhances balance, decreases vibration and improves abrasion resistance. Heat resistant, aluminum alloy pistons have a short compression height for greater efficiency and longer life.

## **Economy Mode**

Available as a standard feature, economy mode allows you to balance the demands of performance and fuel economy while maintaining the breakout forces and lift capacity enjoyed at standard power.

## **ODPS**

On Demand Power Supply is a new feature, constantly regulating engine power supply, based on the power demanded by the machine hydraulic system. This machine reduces fuel consumption and machine noise in light duty applications.

## **Electronic Module Control (ECM)**

The ECsM works as the "brain" of the engine's control system, responding quickly to the 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 diagnostics.

## **Air Cleaner**

The radial seal air filter features a double layered filter core for more efficient filtration. A warning is displayed on the monitor when dust accumulates above a preset level.

# Hydraulics

High efficiency and performance with low effort and precise control.



## Outstanding Performance

With two percent more hydraulic pressure for additional lift, swing torque and breakout forces, the 319D hydraulic system is designed for high efficiency and performance. Auxiliary hydraulic and electrical lines are routed to the boom foot making installation of hydraulic circuits much easier. The new compact design utilizes shorter tubes and lines, reducing friction and pressure drops, resulting in a more efficient use of power.

- Hydraulic snubbers at the rod end of the boom cylinders and both ends of the stick cylinders cushion shock, reduce sound and increase cylinder life.
- Flow is reduced to a minimum when controls are in neutral to reduce fuel consumption and extend component life.
- Electronic Under Speed Control electronically adjusts pump output to not exceed engine power preventing the need to reserve engine power to avoid engine stalls.
- Hydraulic Cross-Sensing System uses two hydraulic pumps to 100 percent of engine power under all operating conditions, improving productivity with faster implement speeds and quicker, stronger pivot turns.
- New hydraulic options : "Smartboom" and "Leveling Mode" improve the efficiency of the 319D. The Fuel "Economode" reduces the operating costs.

## Boom and Stick Regeneration Circuit

The boom and stick regeneration circuit saves energy during boom-down and stick-in operation, increasing efficiency and lowering operating cost.

## Easy Operation

Work mode and power mode switches have been eliminated making full power available at all times. Operators do not need to learn different modes, an automatic boom and swing priority function automatically selects the best mode based on joystick movement.



# Undercarriage and Structures

Excellent stability and maneuverability.



Caterpillar uses advanced engineering and software to analyze all structures, creating a durable, reliable machine for the toughest applications. More than 70 percent of the structural welds are robotic and achieve over three times the penetration of manual welds. These structural components and undercarriage are the backbone of the machine's durability. The 319D undercarriage is highly resistant and durable, integrating parts of bigger 20 to 25 ton excavators. Long and Long Narrow versions of undercarriage are available to bring the best solution to customer applications and business needs.

## Carbody Design

X-shaped, box section carbody provides excellent resistance to torsional bending. Track roller frames are press-formed, pentagonal units that deliver exceptional strength and service life. Integral to the track roller frame are the standard idler and center guards, which help maintain track alignment when traveling or working on slopes.

## Travel Motors

Travel motors with automatic speed selection let the 319D automatically change up and down from high and low speeds in a smooth, controlled manner.

## Additional Heavier Counterweight

The 319D offers an optional 3600kg (+470 kg heavier) counterweight for specific application that need increased lift abilities.

# Front Linkage

Performance, reliability and versatility.

Built for performance and long service life, Cat booms and sticks are welded, box-section structures with thick multi-plate high strength steel fabrications. One-piece or Two-Pieces Variable Angle boom versions are available with the 319D.

Four lengths of stick complete its large choice in front part solutions.





# Versatility

Combinable hydraulic and tool solutions for any job.



## Hydraulic and Pilot Configurations

High pressure systems, medium pressure systems and electrical pilot control are available as independent and combinable attachments to configure the most adapted machine to your specific job needs.

## Control Levers

Two types of control levers and two types of foot pedals are available as separate attachments.

## Work Tools

Caterpillar offers a variety of work tools, including hammers, grapples, shears, multi-processors, pulverizers, compactors and and rippers to fit your application needs.

Additionally, a large range of buckets is available to optimize machine performance.

## Cat K-series Tooth System

This feature provides a reliable tip retention and easy tip installation and removal.

## Quick Coupler

This hydraulic tool holder increases versatility of the excavator by easily and quickly changing a large variety of work tools.

## Product Link

The 319D is pre-wired to accept Product Link systems to install in the field or to order from factory. Product Link assists with fleet management by tracking hours, location and machine health.



# Tool Control

The tool control attachment is installed as standard and offers up to 10 flow and pressure pre-setting ability for easier and quicker tool readiness.

Combined with a hydraulic quick coupler, the tool control system allows changes of tools simply from the cab.



# Serviceability

Simplified service and maintenance saves time and money.

Designed with the service technician in mind, many service locations are at ground level so critical maintenance can be done quickly and efficiently. Longer maintenance intervals reduce cost and increase machine availability.

- Oil level gauge, oil filter, fuel filter and priming pump are on the right side of the upper structure for easy maintenance.
- An optional electronic fuel water sensor is available to alert the operator when the water level is high.
- Product Link assists with fleet management by tracking hours, location and product health.
- New anti-skid plates over the top of the storage box and upper structure help prevent slipping and mud from falling into the upper structure.

## Sampling Ports

Equipped with S·O·S<sup>SM</sup> sampling ports and test ports for hydraulics, engine oil and coolant for quick diagnostics. A test connection for the Cat Electronic Technician (Cat ET) service tool is now located in the cab.

## Air Cleaner

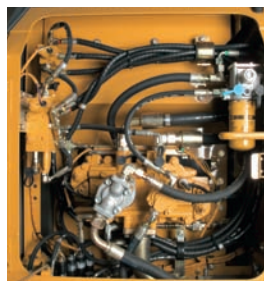
A double-layered filter core in the radial seal air filter gives more efficient filtration. A warning is displayed on the monitor when dust accumulates above a preset level. This filter is conveniently located in the compartment behind the cab. An optional pre-cleaner is also available to extend filter life and reduce maintenance costs.

## Capsule Filter

Capsule-type, hydraulic return filter is accessible from outside the tank and prevents contaminants from entering the system when changing the hydraulic oil.

## Radiator Compartment

Horizontal air conditioner condenser swings out for easy cleaning. Removable screens are located in front of the radiator and hydraulic cooler, reducing cleaning time and effort.





# Product Link

Efficient feature to follow and support your machine anywhere.



The 319D can be equipped with Product Link PL321SR as optional feature.

This system provides permanent location, operating hours and machine health information through GPS ways and Internet tools.

Product Link improves machine availability and lower operating costs.

## Customer Support

Unmatched support makes the difference.

Your Cat dealer is ready to assist you with your purchase decision and everything after.

- Make comparisons of machines, with estimates of component life, preventative maintenance and cost of production.
- Financing packages are flexible to meet your needs.
- Your Cat dealer can evaluate the cost to repair, rebuild and replace your machine, so you can make the right choice.
- For more information on Cat products, dealer services and industry solutions, visit us at [www.cat.com](http://www.cat.com).



# 319D L / LN Hydraulic Excavator Specifications

## Engine

Engine Model Cat® C4.2 ACERT™

Net Flywheel Power

ISO 9249	93 kW/126 hp
80/1269/EEC	93 kW/126 hp

Bore 102 mm

Stroke 130 mm

Displacement 4.25 liter

- 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.
- The 319D L meets EU Stage IIIA Directive 97/68/EC emissions requirements.

## Hydraulic System

Main Implement System

Maximum Flow (2x) 176 l/min

Maximum Pressure – Implements 350 bar

Maximum Pressure – Travel 363 bar

Maximum Pressure – Swing 230 bar

Pilot System – Maximum Flow 27 l/min

Pilot System – Maximum Pressure 41 bar

Boom Cylinder – Bore 120 mm

Boom Cylinder – Stroke 1193 mm

Stick Cylinder – Bore 130 mm

Stick Cylinder – Stroke 1364 mm

Bucket Cylinder – Bore 110 mm

Bucket Cylinder – Stroke 1048 mm

## Sound

Operator Sound

- The operator sound pressure level measured according to the procedures specified in ISO 6396 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 104 dB(A).

## Swing Mechanism

Maximum Swing Torque 51 kNm

Maximum Swing Speed 11.3 rpm

## Drive

Maximum Drawbar Pull 207 kN

Maximum Travel Speed 5 km/h

## Service Refill Capacities

	liter
Fuel Tank	300
Cooling System	11
Engine Oil	18.5
Swing Drive	8
Final Drive (Each)	8
Hydraulic System (Including Tank)	190
Hydraulic Tank	106

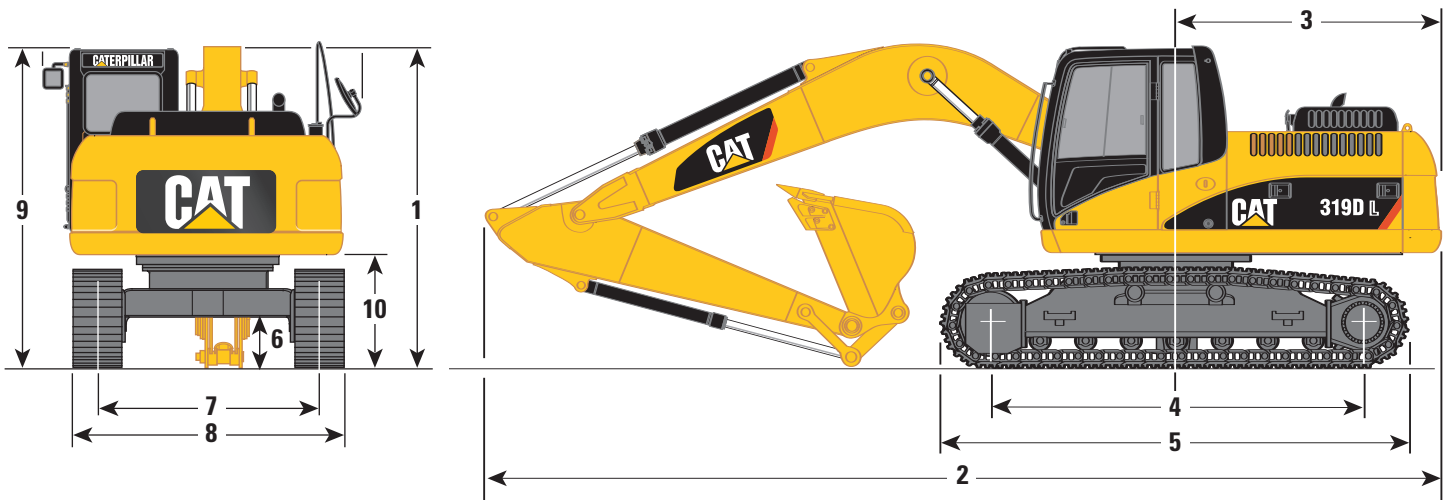
## Standards

Cab/FOGS SAE J1356  
FEB88 ISO 10262



## Dimensions

All dimensions are approximate.



Boom		Reach Boom 5300 mm				VA Boom			
Stick Type		R1.8	R2.25	R2.7	R3.2	R1.8	R2.25	R2.7	R3.2
Stick length	mm	1800	2250	2700	3200	1800	2250	2700	3200
1 Shipping height	mm	3070	3150	3080	3520	3130	3280	3070	3430
2 Shipping length	mm	9000	8820	8770	8760	8900	8690	8650	8620
3 Tail swing radius	mm	2480	2480	2480	2480	2480	2480	2480	2480
4 Length to centers of idler and sprocket	mm	3650	3650	3650	3650	3650	3650	3650	3650
5 Track length	mm	4450	4450	4450	4450	4450	4450	4450	4450
6 Ground clearance	mm	460	460	460	460	460	460	460	460
7 Track gauge									
319D L	mm	2200	2200	2200	2200	2200	2200	2200	2200
319D LN	mm	1990	1990	1990	1990	1990	1990	1990	1990
8 Transport width									
319D L (600 mm shoes)	mm	2800	2800	2800	2800	2800	2800	2800	2800
319D LN (500 mm shoes)	mm	2490	2490	2490	2490	2490	2490	2490	2490
9 Cab height	mm	2870	2870	2870	2870	2870	2870	2870	2870
10 Counterweight clearance	mm	1030	1030	1030	1030	1030	1030	1030	1030

## Operating Weights

Weights will depend on final machine configuration.

Boom		Reach Boom 5300 mm				VA Boom			
Stick		Short 1850 mm	Medium 2250 mm	Long 2700 mm	Extra long 3200 mm	Short 1850 mm	Medium 2250 mm	Long 2700 mm	Extra long 3200 mm
<b>319D L</b>									
600 mm triple grouser shoes	kg	19 482	19 461	19 459	19 554	19 983	19 962	19 960	20 055
<b>319D LN</b>									
500 mm triple grouser shoes	kg	19 186	19 165	19 164	19 259	19 687	19 666	19 665	19 760

# 319D L / LN Hydraulic Excavator Specifications

## Bucket Specifications

Without Quick Coupler	Width	Capacity (ISO)	Weight*	Reach Boom								VA Boom							
				319D L				319D LN				319D L				319D LN			
	mm	m³	kg	1800 mm	2250 mm	2700 mm	3200 mm	1800 mm	2250 mm	2700 mm	3200 mm	1800 mm	2250 mm	2700 mm	3200 mm	1800 mm	2250 mm	2700 mm	3200 mm
Excavation (X)	600	0.38	481																
	750	0.52	510																
	900	0.65	572																
	1000	0.75	606																
	1100	0.84	638																
	1200	0.94	683																
	1300	1.03	715																
	1400	1.13	749																
Extreme Excavation (EX)	1200	0.94	717																
	1300	1.03	750																
Maximum load in kg (payload plus bucket)				3158	2883	2649	2309	2759	2522	2317	2010	3196	2909	2668	2323	2780	2534	2324	2013
<b>With Quick Coupler</b>																			
Excavation (X)	600	0.38	713																
	750	0.52	742																
	900	0.65	804																
	1000	0.75	838																
	1100	0.84	870																
	1200	0.94	915																
	1300	1.03	947																
	1400	1.13	981																
Extreme Excavation (EX)	1200	0.94	949																
	1300	1.03	982																
Maximum load in kg (payload plus bucket)				3158	2883	2649	2309	2759	2522	2317	2010	3196	2909	2668	2323	2780	2534	2324	2013

\* Bucket weight including penetration plus tips

	Max. Material Density 1200 kg/m³
	Max. Material Density 1500 kg/m³
	Material Density 1800 kg/m³ and more
N	Not recommended

## Typical Material Densities

	*kg/m³		*kg/m³
Clay, dry	1500	Rock/dirt, 50%	1720
Clay, wet	1660	Sand, dry	1425
Earth, dry	1510	Sand, wet	1700
Earth, wet	1600	Sand and clay	1600
Loam	1250	Stone, crushed	1600
Gravel, dry	1510	Top soil	950
Gravel, wet	2000		
Gravel, pit run	1930		

\* Kilograms per loose cubic meter



## 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.

Without quick coupler			319D L				319D LN				
			500 mm shoes				500 mm shoes				
			mm	1850	2250	2700	3200	1850	2250	2700	3200
Hammers			H115 S								
			H120C S								
Mechanical Pulverizers			P115							×	
			P120			×	×	×	×	×	×
Multiprocessors			MP15 CC						×	×	
			MP15 CR								×
			MP15 PP				×		×	×	×
			MP15 PS				×			×	×
			MP15 S								×
Crusher			VHC-30							×	
Pulverizer			VHP-30							×	
Mechanical Shears			S115								
			VWC-25								
360° rotatable Shears			S320				×		×	×	
			S325*								
Compactor			CVP75								
Mechanical Grapples			G112							×	
			G115			×	×	×	×	×	×
Multi-Grapples			G315B-D							×	
			G315B-R								×
Orange Peel Grapples	5 tines	GSH15-400									
	4 tines	GSH15-400									
	5 tines	GSH15-500								×	
	4 tines	GSH15-500									
	5 tines	GSH15-600								×	
	4 tines	GSH15-600									
	5 tines	GSH15-800						×	×	×	
	4 tines	GSH15-800								×	
With quick coupler											
Quick Coupler		CW-30									
		CW-30S									
Hammers		H115 S									
		H120C S									
Multiprocessors		MP15 CC, CR, PS				×		×	×	×	
		MP15 PP			×	×	×	×	×	×	
		MP15 S				×			×	×	
Crusher		VHC-30				×		×	×	×	
Pulverizer		VHP-30				×			×	×	
Mechanical Shear		VWC-25									
360° rotatable Shear		S320			×	×	×	×	×	×	
Compactor		CVP75									
Mechanical Grapples		G112						×	×	×	
		G115			×	×	×	×	×	×	
Multi-Grapples		G315B-D				×			×	×	
		G315B-R				×			×	×	

\* Boom Mounted

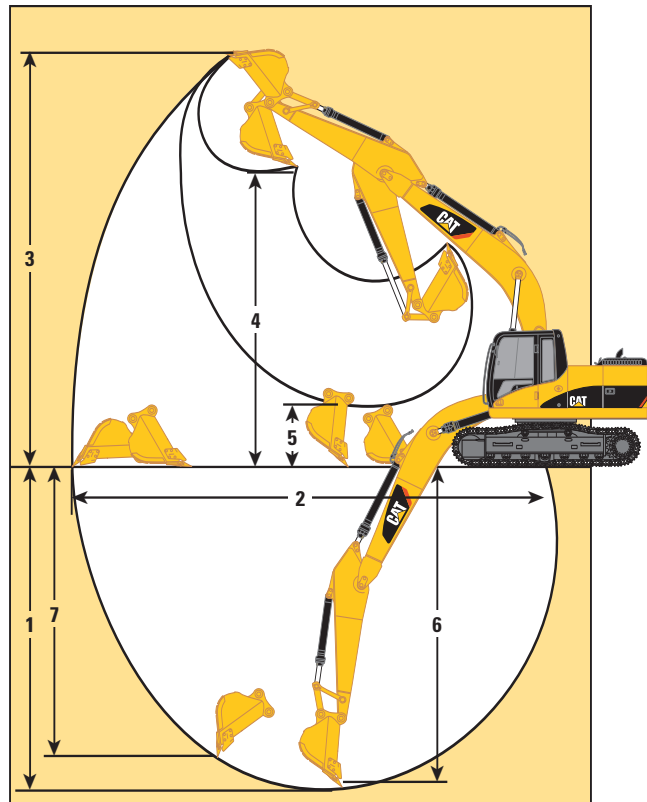
360° Working Range  
 Over the front only  
 Available

Maximum material density 1800 kg/m³  
 Maximum material density 1200 kg/m³  
× Not compatible

# 319D L / LN Hydraulic Excavator Specifications

## Reach Excavator Working Ranges

Reach (R) boom configuration. All measurements are approximate



		Reach Boom				VA Boom				
Stick Options		R1.8	R2.25	R2.7	R3.2	R1.8	R2.25	R2.7	R3.2	
Bucket – Long Fixed Undercarriage		m³	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
1	Maximum Digging Depth	mm	5520	5970	6420	6920	4804	5293	5773	6314
2	Maximum Reach at Ground Level	mm	8410	8860	9300	9820	8140	7085	9036	9569
3	Maximum Cutting Height	mm	8620	8960	9270	9680	—	—	—	—
4	Maximum Loading Height	mm	5840	6110	6410	6810	6690	7087	7487	8005
5	Minimum Loading Height	mm	3210	2760	2300	1810	3733	3362	2826	2448
6	Maximum Depth Cut for 2.50 m Level Bottom	mm	5210	5720	6210	6750	4804	5267	5732	6257
7	Maximum Vertical Wall Digging Depth	mm	4000	5000	5570	6170	3713	4538	5027	5555
Bucket Digging Force (ISO 6015)		kN	139	126	108	103	139	126	108	104
Stick Digging Force (ISO 6015)		kN	132	115	98	90	132	116	99	91



## Lift Capacities with One-piece Boom















All weights are in kg. Calculations are made without bucket, but with CW30 Quick Coupler.

**Medium stick – 2250 mm**

**Shoes – 600 mm**

**Standard counterweight – 3600 kg**

**Long undercarriage**















	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*4650	*4650	4.95
6.0 m							*4840	3920			*4190	3580	6.31
4.5 m					*5680	*5680	*5090	3840			*4100	2890	7.11
3.0 m					*7230	5640	*5750	3670	*4370	2580	*4230	2570	7.52
1.5 m					*8730	5250	6330	3490	4490	2510	4380	2450	7.62
0 m					*9530	5030	6180	3360			4510	2500	7.41
-1.5 m	*6100	*6100	*10890	9470	*9520	4980	6140	3320			5030	2770	6.87
-3.0 m	*11750	*11750	*12290	9660	*8630	5060					*6220	3470	5.91
-4.5 m			*8810	*8810							*6280	5840	4.23

**Long stick – 2700 mm**

**Shoes – 600 mm**

**Standard counterweight – 3600 kg**

**Long undercarriage**















	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*3350	*3350	5.62
6.0 m							*4360	4010			*3050	*3050	6.85
4.5 m					*5100	*5100	*4720	3920	*3330	2690	*2980	2630	7.59
3.0 m			*10150	*10150	*6690	5780	*5440	3740	4620	2620	*3050	2360	7.98
1.5 m					*8340	5360	*6240	3540	4520	2540	*3260	2260	8.07
0 m			*6210	*6210	*9370	5090	6220	3390	4440	2470	*3650	2300	7.87
-1.5 m	*5560	*5560	*9900	9440	*9610	4990	6140	3320			*4390	2510	7.37
-3.0 m	*9760	*9760	*12870	9580	*9030	5020	6170	3350			5520	3030	6.48
-4.5 m			*10300	9910	*7050	5220					*6060	4510	5

**Medium stick – 2250 mm**

**Shoes – 600 mm**

**Heavy counterweight – 3900 kg**

**Long undercarriage**















	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*4650	*4650	4.95
6.0 m							*4840	4080			*4190	3730	6.31
4.5 m					*5680	*5680	*5090	4000			*4100	3020	7.11
3.0 m					*7230	5870	*5750	3830	*4370	2700	*4230	2690	7.52
1.5 m					*8730	5480	*6470	3650	4650	2630	4530	2570	7.62
0 m					*9530	5260	6400	3520			4670	2620	7.41
-1.5 m	*6100	*6100	*10890	9880	*9520	5210	6350	3480			5210	2900	6.87
-3.0 m	*11750	*11750	*12290	10070	*8630	5290					*6220	3630	5.91
-4.5 m			*8810	*8810							*6280	6090	4.23

**Long stick – 2700 mm**

**Shoes – 600 mm**

**Heavy counterweight – 3900 kg**

**Long undercarriage**

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*3350	*3350	5.62
6.0 m							*4360	4170			*3050	*3050	6.85
4.5 m					*5100	*5100	*4720	4070	*3330	2810	*2980	2750	7.59
3.0 m			*10150	*10150	*6690	6010	*5440	3890	*4730	2740	*3050	2470	7.98
1.5 m					*8340	5580	*6240	3700	4680	2660	*3260	2370	8.07
0 m			*6210	*6210	*9370	5320	6430	3550	4600	2590	*3650	2410	7.87
-1.5 m	*5560	*5560	*9900	9860	*9610	5220	6350	3480			*4390	2630	7.37
-3.0 m	*9760	*9760	*12870	10000	*9030	5250	6390	3510			5710	3180	6.48
-4.5 m			*10300	*10300	*7050	5450					*6060	4710	5



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 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.

# 319D L / LN Hydraulic Excavator Specifications

## Lift Capacities with One-piece Boom















All weights are in kg. Calculations are made without bucket, but with CW30 Quick Coupler.

**Short stick – 1850 mm**

**Shoes – 500 mm**

**Standard counterweight – 3600 kg**

**Long Narrow undercarriage**















	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*5550	*5550	4.26
6.0 m					*5280	*5280					*5310	3620	5.79
4.5 m			*8230	*8230	*6180	5280	*5430	3350			*5300	2820	6.65
3.0 m					*7690	4850	*6020	3190			4870	2460	7.09
1.5 m					*9020	4490	6180	3030			4680	2330	7.2
0 m					*9570	4330	6060	2920			4840	2380	6.98
−1.5 m			*12 190	8120	*9320	4320	6050	2910			5510	2690	6.4
−3.0 m			*11 290	8330	*8100	4450					*6570	3530	5.35

**Medium stick – 2250 mm**

**Shoes – 500 mm**

**Standard counterweight – 3600 kg**

**Long Narrow undercarriage**















	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*4650	*4650	4.95
6.0 m							*4840	3510			*4190	3200	6.31
4.5 m					*5680	5410	*5090	3430			*4100	2570	7.11
3.0 m					*7230	4990	*5750	3260	*4370	2280	*4230	2270	7.52
1.5 m					*8730	4610	6240	3080	4420	2210	4310	2160	7.62
0 m					*9530	4400	6090	2960			4440	2200	7.41
−1.5 m	*6100	*6100	*10 890	8100	*9520	4350	6050	2920			4950	2440	6.87
−3.0 m	*11 750	*11 750	*12 290	8280	*8630	4420					*6220	3060	5.91
−4.5 m			*8810	8670							*6280	5130	4.23

**Long stick – 2700 mm**

**Shoes – 500 mm**

**Standard counterweight – 3600 kg**

**Long Narrow undercarriage**















	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*3350	*3350	5.62
6.0 m							*4360	3600			*3050	2830	6.85
4.5 m					*5100	*5100	*4720	3500	*3330	2390	*2980	2330	7.59
3.0 m			*10 150	9500	*6690	5130	*5440	3320	4550	2330	*3050	2090	7.98
1.5 m					*8340	4710	*6240	3130	4450	2240	*3260	1990	8.07
0 m			*6210	*6210	*9370	4450	6130	2990	4370	2170	*3650	2020	7.87
−1.5 m	*5560	*5560	*9900	8080	*9610	4360	6050	2920			*4390	2210	7.37
−3.0 m	*9760	*9760	*12 870	8220	*9030	4390	6080	2950			5440	2670	6.48
−4.5 m			*10 300	8530	*7050	4580					*6060	3970	5.00

**Short stick – 1850 mm**

**Shoes – 500 mm**

**Heavy counterweight – 3900 kg**

**Long Narrow undercarriage**

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*5550	*5550	4.26
6.0 m					*5280	*5280					*5310	3780	5.79
4.5 m			*8230	*8230	*6180	5490	*5430	3500			*5300	2950	6.65
3.0 m					*7690	5070	*6020	3340			5040	2580	7.09
1.5 m					*9020	4710	6400	3180			4850	2450	7.20
0 m					*9570	4550	6270	3070			5020	2510	6.98
−1.5 m			*12 190	8500	*9320	4540	6260	3060			5700	2820	6.40
−3.0 m			*11 290	8710	*8100	4660					*6570	3700	5.35



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 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.














## Lift Capacities with One-piece Boom

All weights are in kg. Calculations are made without bucket, but with CW30 Quick Coupler.

**Medium stick** – 2250 mm  
**Shoes** – 500 mm  
**Heavy counterweight** – 3900 kg  
**Long Narrow undercarriage**

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
												m	
7.5 m											*4650	*4650	4.95
6.0 m							*4840	3660			*4190	3340	6.31
4.5 m					*5680	5620	*5090	3580			*4100	2690	7.11
3.0 m					*7230	5210	*5750	3410	*4370	2400	*4230	2380	7.52
1.5 m					*8730	4820	6460	3230	4580	2330	4470	2270	7.62
0 m					*9530	4610	6310	3110			4600	2320	7.41
−1.5 m	*6100	*6100	*10 890	8490	*9520	4560	6260	3070			5130	2560	6.87
−3.0 m	*11 750	*11 750	*12 290	8670	*8630	4640					*6220	3210	5.91
−4.5 m			*8810	*8810							*6280	5360	4.23














**Long stick** – 2700 mm  
**Shoes** – 500 mm  
**Heavy counterweight** – 3900 kg  
**Long Narrow undercarriage**

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
												m	
7.5 m											*3350	*3350	5.62
6.0 m							*4360	3740			*3050	2960	6.85
4.5 m					*5100	*5100	*4720	3650	*3330	2500	*2980	2450	7.59
3.0 m			*10 150	9880	*6690	5340	*5440	3470	4710	2440	*3050	2190	7.98
1.5 m					*8340	4930	*6240	3280	4610	2350	*3260	2100	8.07
0 m			*6210	*6210	*9370	4670	6340	3140	4530	2280	*3650	2130	7.87
-1.5 m	*5560	*5560	*9900	8460	*9610	4570	6260	3070			*4390	2320	7.37
-3.0 m	*9760	*9760	*12 870	8600	*9030	4610	6300	3100			5630	2810	6.48
-4.5 m			*10 300	8910	*7050	4800					*6060	4160	5.00

### Lift Capacities with Variable Angle Boom

All weights are in kg. Calculations are made without bucket, but with CW30 Quick Coupler.

**Medium stick** – 2250 mm  
**Shoes** – 600 mm  
**Standard counterweight** – 3600 kg  
**Long undercarriage**

	0m		1.5m		3.0m		4.5m		6.0m		7.5m				
														m	
7.5 m							*5500	*5500					*4780	*4780	4.80
6.0 m							*6050	*6050	*4940	3920			*4240	3670	6.20
4.5 m					*7460	*7460	*7320	6370	*6420	3990			*4110	2920	7.00
3.0 m					*12940	11 300	*8840	6250	6630	3910			*4210	2580	7.43
1.5 m			*9440	*9440	*13860	11 070	*9530	6050	*6580	3710	4490	2460	4470	2450	7.52
0 m	*11 100	*11 100	*12 270	*12 270	*14 840	10 530	*9560	5610	6420	3500			4600	2500	7.31
−1.5 m	*12 840	*12 840	*14 470	*14 470	*15 070	10 040	*9720	5270	6230	3340			*4690	2780	6.77
−3.0 m	*14 350	*14 350	*19 300	*19 300	*13 510	9840	*7910	5090							

**Long stick – 2700 mm**  
**Shoes – 600 mm**  
**Standard counterweight – 3600 kg**  
**Long undercarriage**

[illegible]



# 319D L / LN Hydraulic Excavator Specifications

## Lift capacities with Variable Angle boom

All weights are in kg. Calculations are made without bucket, but with CW30 Quick Coupler.

















**Medium stick – 2250 mm**

**Shoes – 600 mm**

**Heavy counterweight –**

3900 kg

**Long undercarriage**

	0 m		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
															m
7.5 m							*5500	*5500					*4780	*4780	4.8
6.0 m							*6050	*6050	*4940	4080			*4240	3830	6.2
4.5 m					*7460	*7460	*7320	6570	*6420	4140			*4110	3050	7
3.0 m					*12 940	11 600	*8840	6430	*6770	4070			*4210	2700	7.43
1.5 m			*9440	*9440	*13 860	11 480	*9530	6280	6740	3870	4650	2580	*4520	2570	7.52
0 m	*11 100	*11 100	*12 270	*12 270	*14 840	10 950	*9560	5840	6640	3660			4770	2620	7.31
−1.5 m	*12 840	*12 840	*14 470	*14 470	*15 070	10 460	*9720	5490	6450	3500			*4690	2920	6.77
−3.0 m	*14 350	*14 350	*19 300	*19 300	*13 510	10 260	*7910	5320							
















**Long stick – 2700 mm**

**Shoes – 600 mm**

**Heavy counterweight –**

3900 kg

**Long undercarriage**

	0 m		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
														m	
9.0 m					*4990	*4990							*4680	*4680	3.16
7.5 m							*4710	*4710					*3440	*3440	5.49
6.0 m							*4800	*4800	*4480	4210			*3090	*3090	6.74
4.5 m					*5050	*5050	*5610	*5610	*5290	4250			*2990	2770	7.49
3.0 m					*12 810	11 790	*8490	6450	*6600	4190	*4480	2740	*3040	2480	7.88
1.5 m			*14 860	*14 860	*13 820	11 450	*9410	*6320	6720	4020	4700	2650	*3230	2370	7.97
0 m	*8180	*8180	*11 400	*11 400	*14 420	11 220	*9560	5960	6720	3780	4610	2560	*3610	2410	7.28
−1.5 m	*10 390	*10 390	*12 000	*12 000	*14 970	10 570	*9640	5630	6510	3550			*4310	2640	7.27
−3.0 m	*11 330	*11 330	*14 540	*14 540	*14 770	10 400	*8950	5350	*4970	3480			*3810	3220	6.36
−4.5 m					*8310	*8310									
















**Short stick – 1850 mm**

**Shoes – 500 mm**

**Standard counterweight –**

3600 kg

**Long Narrow undercarriage**

	0 m		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
														m	
7.5 m					*6950	*6950							*6270	*6270	4.09
6.0 m					*7320	*7330	*7560	5780					*5470	3730	5.67
4.5 m					*11 470	*10 430	*8170	5740	6620	3400			*5310	2850	6.54
3.0 m					*13 050	*10 030	*9090	5600	6540	3340			4990	2460	6.99
1.5 m					*14 060	9710	*9540	5220	6440	3170			4780	2320	7.10
0 m			*13 400	*13 400	*14 840	8850	*9550	4840	6200	2970			4960	2370	6.87
−1.5 m	*14 690	*14 690	*15 300	*15 300	*15 070	8530	*9550	4510	*5740	2880			*4820	2690	6.29
−3.0 m			*20 750	*20 750	*11 860	8400	*6200	4430							
















**Medium stick – 2250 mm**

**Shoes – 500 mm**

**Standard counterweight –**

3600 kg

**Long Narrow undercarriage**

	0m		1.5m		3.0m		4.5m		6.0m		7.5m				
														m	
7.5 m							*5500	*5500					*4780	*4780	4.8
6.0 m							*6050	5880	*4940	3500			*4240	3270	6.2
4.5 m					*7460	*7460	*7320	5790	*6420	3560			*4110	2590	7.00
3.0 m					*12 940	10 160	*8840	5660	6570	3480			*4210	2270	7.43
1.5 m			*9440	*9440	*13 860	9920	*9530	5370	6520	3290	4420	2160	4400	2150	7.52
0 m	*11 100	*11 100	*12 270	*12 270	*14 840	9090	*9560	4950	6330	3090			4540	2190	7.31
−1.5 m	*12 840	*12 840	*14 470	*14 470	*15 070	8620	*9720	4610	6140	2930			*4690	2430	6.77
−3.0 m	*14 350	*14 350	*19 300	*19 300	*13 510	8430	*7910	4450							



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 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.
















## Lift capacities with Variable Angle boom

All weights are in kg. Calculations are made without bucket, but with CW30 Quick Coupler.
















**Long stick – 2700 mm**  
**Shoes – 500 mm**  
**Standard counterweight – 3600 kg**  
**Long Narrow undercarriage**

	0 m		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
															m
9.0 m					*4990	*4990							*4680	*4680	3.16
7.5 m							*4710	*4710					*3440	*3440	5.49
6.0 m							*4800	*4800	*4480	3650			*3090	2880	6.74
4.5 m					*5050	*5050	*5610	*5610	*5290	*3690			*2990	2340	7.49
3.0 m					*12 810	10 280	*8490	5680	6590	3620	*4480	2310	*3040	2080	7.88
1.5 m			*14 860	*14 860	*13 820	9990	*9410	5530	6510	3440	4490	2230	*3230	1980	7.97
0 m	*8180	*8180	*11 400	*11 400	*14 420	9350	*9560	5060	6420	3200	4390	2130	*3610	2000	7.78
-1.5 m	*10 390	*10 390	*12 000	*12 000	*14 970	8730	*9640	4740	6200	2970			*4310	2200	7.27
-3.0 m	*11 330	*11 330	*14 540	*14 540	*14 770	8570	*8950	4470	*4970	2910			*3810	2690	6.36
-4.5 m					*8310	*8310									
















**Short stick – 1850 mm**  
**Shoes – 500 mm**  
**Heavy counterweight – 3900 kg**  
**Long Narrow undercarriage**

	0 m		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
															m
7.5 m					*6950	*6950							*6270	*6270	4.09
6.0 m					*7320	*7330	*7560	6000					*5470	3890	5.67
4.5 m					*11 470	10 770	*8170	5920	*6640	3550			*5310	2980	6.54
3.0 m					*13 050	10 340	*9090	5820	6690	3490			5170	2580	6.99
1.5 m					*14 060	10 090	*9540	5440	6650	3320			4950	2440	7.1
0 m			*13 400	*13 400	*14 840	9230	*9550	5050	6420	3120			5140	2500	6.87
-1.5 m	*14 690	*14 690	*15 300	*15 300	*15 070	8910	*9550	4720	*5740	3030			*4820	2830	6.29
-3.0 m			*20 750	*20 750	*11 860	8790	*6200	4650							

**Medium stick – 2250 mm**  
**Shoes – 500 mm**  
**Heavy counterweight – 3900 kg**  
**Long Narrow undercarriage**

	0 m		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
															m
7.5 m							*5500	*5500					*4780	*4780	4.8
6.0 m							*6050	6020	*4940	3650			*4240	3410	6.2
4.5 m					*7460	*7460	*7320	5970	*6420	3710			*4110	2710	7
3.0 m					*12 940	10 430	*8840	*5860	6720	3630			*4210	2380	7.43
1.5 m			*9440	*9440	*13 860	10 300	*9530	5590	6670	3440	4580	2270	*4520	2260	7.52
0 m	*11 100	*11 100	*12 270	*12 270	*14 840	9470	*9560	5160	6550	3240			4700	2300	7.31
-1.5 m	*12 840	*12 840	*14 470	*14 470	*15 070	9010	*9720	4830	6360	3070			*4690	2560	6.77
-3.0 m	*14 350	*14 350	*19 300	*19 300	*13 510	8820	*7910	4660							

**Long stick – 2700 mm**  
**Shoes – 500 mm**  
**Heavy counterweight – 3900 kg**  
**Long Narrow undercarriage**

	0 m		1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
															m
9.0 m					*4990	*4990							*4680	*4680	3.16
7.5 m							*4710	*4710					*3440	*3440	5.49
6.0 m							*4800	*4800	*4480	3790			*3090	3010	6.74
4.5 m					*5050	*5050	*5610	*5610	*5290	3830			*2990	2460	7.49
3.0 m					*12 810	10 560	*8490	5890	*6600	3750	*4480	2430	*3040	2190	7.88
1.5 m			*14 860	*14 860	*13 820	*10 280	*9410	5740	6660	3590	4640	2340	*3230	2080	7.97
0 m	*8180	*8180	*11 400	*11 400	*14 420	9730	*9560	5280	6630	3350	4550	2250	*3610	2110	7.78
-1.5 m	*10 390	*10 390	*12 000	*12 000	*14 970	9120	*9640	4960	6420	3120			*4310	2320	7.27
-3.0 m	*11 330	*11 330	*14 540	*14 540	*14 770	8950	*8950	4690	*4970	3060			*3810	2830	6.36
-4.5 m					*8310	*8310									

# 319D L / LN Standard Equipment

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

## MANDATORY ATTACHMENTS

Conversion arrangement

Windshield

Seat

Joystick

Temperature Control

Machine Security Systems

Tracks

## ELECTRICAL

50 A alternator

Working light, storage box mounted

Warning horn (front)

Cat battery

Circuit breaker

## GUARDS

Guard, bottom

Track motor guards

## OPERATOR ENVIRONMENT

Floor mat, washable and pre-cut for pedal option

Adjustable armrests

Positive filtered ventilation

Ashtray

Beverage holder

Bolt-on FOGS capability

Sliding door window

Polycarbonate skylight

Windshield wiper (parallel type) and washers

Alternate exit: hammer to break glass

Literature holder

Storage compartment suitable for lunch box and utility space for magazines

Neutral lever lockout for all controls

Travel control pedals with removable hand levers

Platform with provision for one attachment related pedal

## Monitor

Full graphic and full color display with language capability

Warning information, filter and fluid change information

Working hour information

Machine condition, error code and tool mode setting information

Start up level check for hydraulic oil, engine oil and engine coolant

## POWER TRAIN

Cat C4.2 Diesel Engine with ACERT Technology

Stage IIIA emission package for EU territories

43° C cooling capability

2300 m altitude capability

Air inlet heater for low ambient starting

24 V electric starting

Radial seal air filters (13") with double element, integrated cyclonic

Caterpillar extended life coolant

Automatic engine speed control with push button return to idle

Water separator in fuel line

Secondary engine shut-off switch

Fuel economy mode

2 micron fuel filter

Waved fin radiator with side-by-side type oil cooler

## UNDERCARRIAGE

Hydraulic track adjusters

Idler and center section track guiding guards

Towing eye on main frame

Grease lubricated tracks

## OTHER STANDARD EQUIPMENT

High pressure auxiliary hydraulic valve

Capability to add auxiliary valve and attachment hydraulic pump and controls

Boom and stick drift reducing valve

Boom and stick regeneration circuit

Separate hydraulic filter with re-useable metal tube for the filter element – no drop oil filter

Two speed travel with automatic shift change

Automatic swing parking brake

Doors and cab lock with Caterpillar one key security system

Fire wall between pump compartment and engine

Overheating prevention system

Counterweight 3600 kg with lifting eyes

Mirrors (frame right, cab left)

Sound suppression system, meets EU directive 2000/14/EC

Hydraulic main pump

Reverse swing damping valve

Product Link ready



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

### FRONT PARTS

#### Booms

- One-piece

- Variable Angle

#### Sticks

- 3200 mm (Extra Long)

- 2700 mm (Long)

- 2250 mm (Medium)

- 1850 mm (Short)

- Boom lowering check valve

- Stick lowering check valve

- Bucket linkage

- Buckets and tips

- Tear drop conversion

- Quick couplers

- Pin grabber

- Pin group

### ELECTRICAL

- Electric refueling pump

- Alarm, travel

- Radio type recorder

- Battery, heavy-duty

- Working light, boom (right side)

- Working lights, cab mounted

- Water level indicator

### OPERATOR ENVIRONMENT

- Tool modulation pedal

- Foot switch

- Converter, one or two (12V/7 A)

- Timer delay

- Cab rain protector

- Sun shade

- Storage compartment cover

### HYDRAULICS

- High pressure single action system

- High pressure combined function system

- Medium pressure system

- Initial circuit

- Leveling Mode circuit

- Boom auxiliary lines

- Boom medium pressure lines

- Boom quick-coupler lines

- Stick auxiliary lines

- Stick medium pressure lines

- Stick quick-coupler lines

- Actuator, clamshell

- Quick disconnect

### GUARDS

- Track guiding guards, full length

### FOGS

- Bottom guards, heavy duty

- Swivel guard

### OTHERS

- CE High Ambient cooling package

- Product Link PL321SR

- Heavy counterweight 3900 kg

- Bio hydraulic oil

- Instruction book

- Special packings







# 319D L/LN Hydraulic Excavator

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HEHH3682 (10/2008) hr

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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