

313D

Heavy Duty Application
Hydraulic Excavators



Engine

Engine Model	Cat® C4.2 ACERT™
Net Power (SAE J1349)	67 kW
Gross Power	72 kW

Weights

Operating Weight – Standard Undercarriage	13 430 kg
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313D Features

Engine and Hydraulics

A powerful Cat® 4.2 ACERT™ engine which meets Tier 3 and EU Stage IIIA combined with a highly efficient hydraulics system provides excellent machine performance with low fuel consumption.

Structures

Caterpillar design and manufacturing techniques assure outstanding durability and service life in the toughest applications.

Operator Station

Spacious cab with excellent visibility and easy to access switches. The monitor features a full-color graphical display which is user intuitive and highly visual with built-in pre-start machine checks. Overall, the new cab provides a comfortable working environment for efficient day-long operation.

Service and Maintenance

This machine has been designed so that routine service and maintenance can be completed quickly and easily to help reduce ownership costs. Convenient access points with extended intervals and advanced filtration keeps down-time to a minimum.

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.

Cat 313D Total Solutions

Caterpillar and its extensive dealer network offer a wide variety of solutions designed to meet the unique needs of your business.

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Achieve high productivity and lower operating costs with the Cat® 313D Hydraulic Excavator. Unmatched versatility, improved controllability, easy operation and a comfortable, redesigned operator station help make the 313D an industry-leading performer.

Operator Station

Enhanced comfort, operation and visibility

Operator Station

The ergonomically designed operator station is spacious, quiet and comfortable, assuring high productivity during a long work day. All switches are located on the right-hand console for convenient access.

Monitor

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

Joystick Control

Low effort, pilot operated joystick controls are designed to match the operator's natural wrist and arm position for maximum comfort and minimum fatigue.

Seat

The standard suspension seat provides a variety of adjustments to suit the operator's size and weight including fore/aft, height and weight. Wide adjustable armrests and a retractable seat belt are also included.

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.

Cab Exterior

The cab shell features thick steel tubing along the bottom perimeter of the cab, improving resistance to 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.

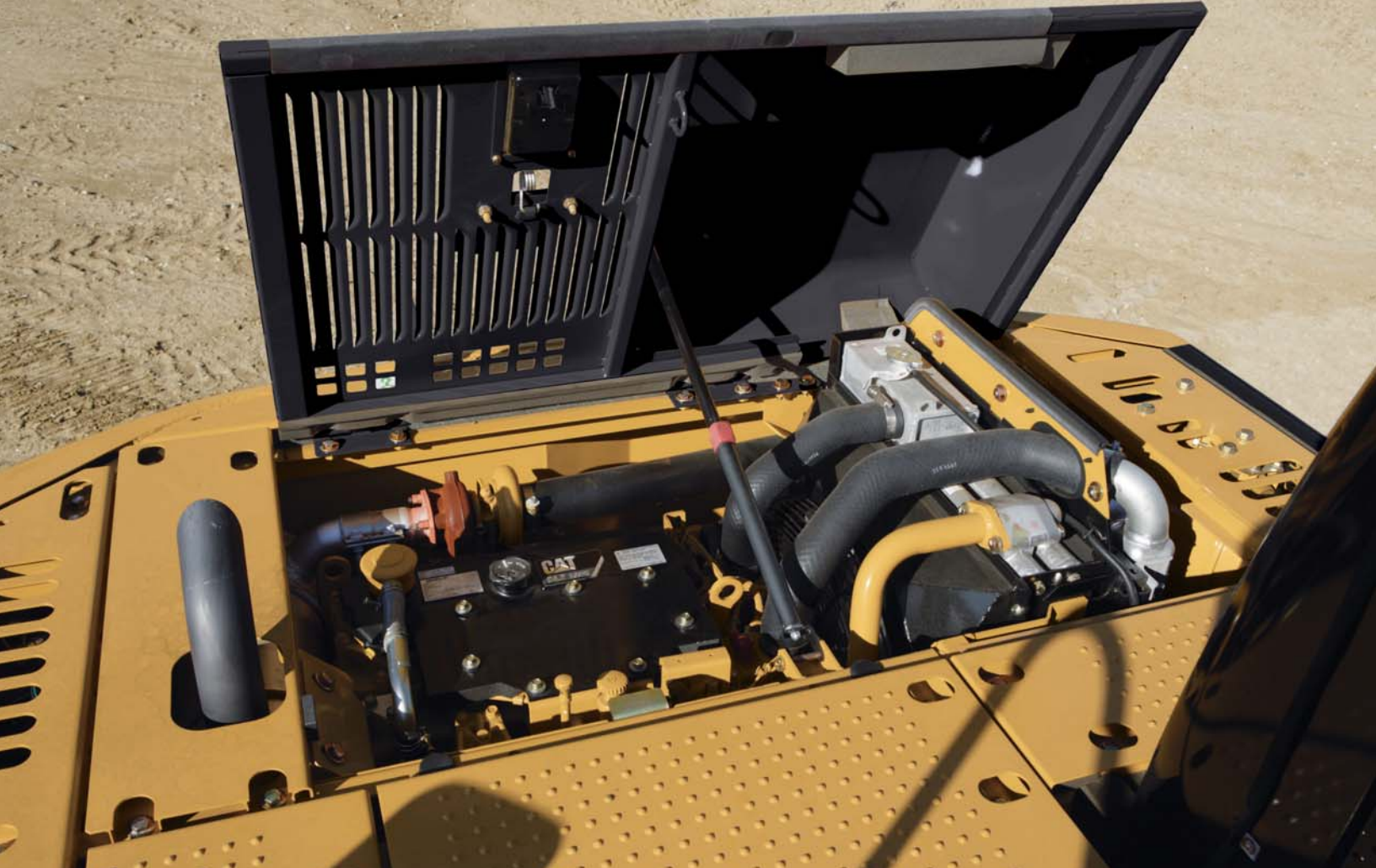
Windows

To maximize visibility, all glass is affixed directly to the cab, eliminating window frames. 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.





Engine

Delivering the most work per liter/gallon of fuel consumed

The Cat® C4.2 engine with ACERT™ Technology optimizes performance and meets U.S. EPA Tier 3 and 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 delivers exceptional power, allowing more hydraulic pressure to drive productivity and reduce your cost per ton of material moved.

Automatic Engine Control and Fuel Delivery

A two-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 (gallon) of fuel used. Flexible fuel mapping allows the engine to respond quickly to varying application needs.

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 standard, 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.

Hydraulics

Low effort and precise control for highly efficient performance



Outstanding Performance

The 313D 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. This compact design utilizes short 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 up to 100 percent of engine power under all operating conditions, improving productivity with faster implement speeds and quicker, stronger pivot turns.

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 costs.

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

Strong, stable and easy to maneuver



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 additional penetration over manual welds. These structural components and undercarriage are the backbone of the machine's durability.

Carbody Design

X-shaped, box section carbody provides excellent resistance to torsional bending. Robot-welded track roller frames are press-formed, pentagonal units that deliver exceptional strength and service life.

Grease Lubricated Track

Grease lubricated track seals protect the track link and deliver long track link pin and bushing inner wear.

Travel Motors

Travel motors with automatic speed selection let the 313D automatically change up and down from high and low speeds in a smooth, controlled manner.

Front Linkage

Reliable, durable and versatile

Built for performance and long service life, Cat booms and sticks are welded, box-section structures with thick multi-plate high strength steel fabrications. Service intervals are extended with self-lubricating bearings that resist corrosion and galling for superior durability.

Heavy Duty Stick

A 2.5 m heavy duty stick has additional plates, new forged parts and welded joints for increased durability, digging force and lifting capability.

Boom

A 4.65 m one-piece, heavy duty boom features parts made from a new forging pattern and additional, thicker plates. A light attached to the left side offers improved visibility in dark and low-light conditions.



Versatility

More options for more work

Cat Buckets and Cat Ground Engaging Tools (GET) are designed and matched to the machine ensuring optimal performance and fuel consumption. They are built to Caterpillar specifications guaranteeing quality and durability, whatever the application.

General Duty Buckets

General Duty buckets have been designed for machines digging in low-impact, moderately abrasive materials such as dirt, loam, gravel and clay.

Severe Duty Buckets

Severe duty are best suited to highly abrasive applications such as shot rock and granite.



Service and Maintenance

Simplified service and maintenance features save you time and money



Ground Level Service

The design and layout of the 313D was made with the service technician in mind. Many service locations are easily accessible at ground level allowing service and maintenance to get completed quickly and efficiently.

Pump Compartment

A service door on the right side of the upper structure allows ground-level access to the pump, pilot filter, drain filter, and the engine oil filter.

Radiator Compartment

The left service door allows easy access to the engine radiator, oil cooler, air-to-air-after-cooler, water separator and 3rd fuel filter. A reserve tank and drain cock are attached to the radiator for simplified maintenance.

The air filter features a double-element construction for superior cleaning efficiency. When the air cleaner plugs, a warning is displayed on the monitor screen inside the cab.

Capsule Filter

The hydraulic return filter, a capsule filter, is situated outside the hydraulic tank. This filter prevents contaminants from entering the system when hydraulic oil is changed and keeps the operation clean.

Greasing Points

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

Fan Guard

Engine radiator fan is completely enclosed by fine wire mesh, reducing the risk of an accident.

Anti-Skid Plate

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

Diagnostics and Monitoring

The 313D is equipped with S·O·SSM sampling ports and hydraulic test ports for the hydraulic system, engine oil, and for coolant. A test connection for the Cat Electronic Technician (Cat ET) service tool is located behind the cab.

Extended Service Interval

313D service and maintenance intervals have been extended to reduce machine service time and increase machine availability.



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 downtime. 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.

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.

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.

Replacement

Repair, rebuild, or replace? Your Cat dealer can help you evaluate the cost involved so you can make the right choice.

313D Hydraulic Excavator Specifications

Engine

Engine Model	Cat® C4.2 ACERT™
Gross Power	72 kW
Net Power	67 kW
SAE J1349	67 kW
Bore	102 mm
Stroke	130 mm
Displacement	4.25 L

- Net power advertise 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 313D meets U.S. EPA Tier 3 and EU Stage IIIA Directive/97/68/EC emissions requirements.

Weights

Operating Weight – Standard Undercarriage	13 430 kg
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- Standard undercarriage: 500 mm shoe, 2.5 m stick, 0.52 m³ bucket.

Swing Mechanism

Swing Torque	30 950 N·m
Swing Speed	12.4 rpm

Drive

Maximum Drawbar Pull	114 kN
Travel Speed	5.5 km/h

Hydraulic System

Main Implement System – Maximum Flow (2x)	127 L/min
Maximum Pressure – Implements	30 500 kPa
Maximum Pressure – Travel	35 000 kPa
Maximum Pressure – Swing	23 000 kPa
Pilot System – Maximum Flow	21.9 L/min
Pilot System – Maximum Pressure	4120 kPa
Boom Cylinder – Bore	110 mm
Boom Cylinder – Stroke	1015 mm
Stick Cylinder – Bore	120 mm
Stick Cylinder – Stroke	1197 mm
Bucket Cylinder – Bore	100 mm
Bucket Cylinder – Stroke	939 mm

Service Refill Capacities

Fuel Tank	250 L
Cooling System	17.9 L
Engine Oil	19.5 L
Swing Drive	3 L
Final Drive (Each)	3 L
Hydraulic System (Including Tank)	162 L
Hydraulic Tank	150 L

Standards

Cab/FOGS	SAE J1356 FEB88 ISO 10262
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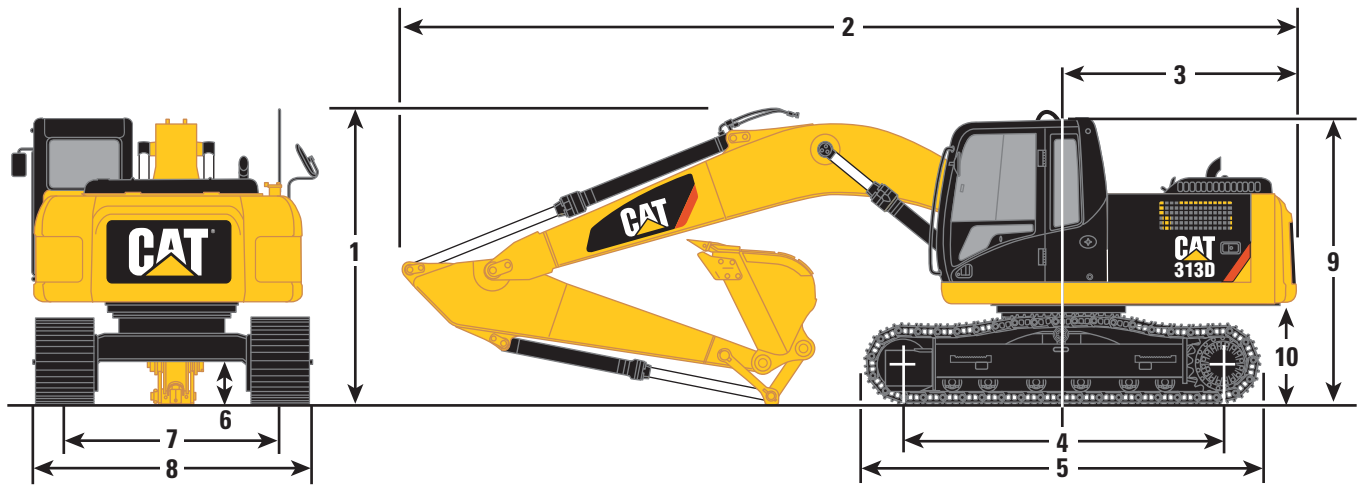
Sound Performance

Performance:

- The operator sound exposure Leq (equivalent sound pressure level) measured according to the work cycle procedures specified in ANSI/SAE J1166 OCT 98 is 73 dB(A), at standard ambient, for the cab offered by Caterpillar, when properly installed and maintained and tested with the doors and windows closed.
- 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.

Dimensions

All dimensions are approximate.



Boom Options	Reach
Stick Options	2.5 m
1 Shipping Height	2830 mm
2 Shipping Length	7610 mm
3 Tail Swing Radius	2140 mm
4 Length to Center of Rollers	2780 mm
5 Track Length	3490 mm
6 Ground Clearance	430 mm
7 Track Gauge	1990 mm
8 Transport Width	500 mm Shoes
313D	2490 mm
9 Cab Height	2760 mm
10 Counterweight Clearance	915 mm

Undercarriage

Caterpillar designed and built track-type undercarriage.

Track Width

500 mm triple grouser

Ground Pressure

313D

41.8 kPa

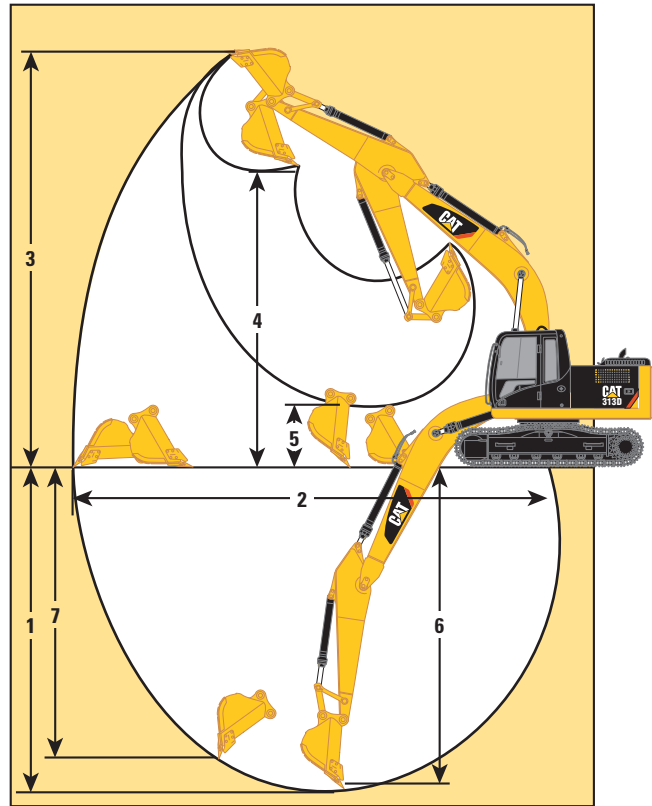
313D Work Tools

Part Number	Bucket Type	Linkage	Edge	Width (mm)	Capacity (m ³)	GET	Tip Number	Weight (kg)
370-3249	GD	Std	ISJ-Str	1050	0.65	J250 × 6	9J-3169 Long	494
358-4486	SD	Std	ISJ-Str	1067	0.63	J300 × 5	8E-3751 HD Long	605

313D Hydraulic Excavator Specifications

Working Ranges

All dimensions are approximate.



Boom Options	Reach
	4.65 m
Stick Options	2.5 m*
Bucket	0.63 m³
1 Maximum Digging Depth	5580 mm
2 Maximum Reach at Ground Level	8220 mm
3 Maximum Cutting Height	8510 mm
4 Maximum Loading Height	6060 mm
5 Minimum Loading Height	1970 mm
6 Maximum Depth Cut for 2440 mm Level Bottom	5380 mm
7 Maximum Vertical Wall Digging Depth	5040 mm
Stick Digging Force (SAE)	63 kN
Bucket Digging Force (SAE)	82 kN

* Measurements shown are for machines equipped with the 0.63 m³ buckets.

Reach Boom Lift Capacities



Load Point
Height



Load at
Maximum Reach



Load Radius
Over Front



Load Radius
Over Side

STICK – 2.5 m
BUCKET – None

UNDERCARRIAGE – Standard
SHOES – 500 mm triple grouser

BOOM – Reach
BLADE – Without blade

		1.5 m		3.0 m		4.5 m		6.0 m				
												m
6.0 m	kg					*3300	*3300			*2400	*2400	5.37
4.5 m	kg					*3500	*3500	3300	2350	*2200	2150	6.37
3.0 m	kg			*5750	*5750	*4250	3600	3200	2300	*2200	1850	6.90
1.5 m	kg			*8250	5950	4750	3300	3100	2200	*2300	1700	7.08
Ground Line	kg			*6850	5600	4550	3100	3000	2100	2450	1700	6.93
-1.5 m	kg	*4850	*4850	8800	5550	4450	3050	2950	2050	2700	1900	6.42
-3.0 m	kg	*8750	*8750	*7850	5650	4500	3100			3400	2400	5.47

* Indicates that the load is limited by hydraulic lifting capacity rather than tipping load. The above loads are in compliance with hydraulic excavator lift capacity standard ISO 10567:2007. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping load. Weight of all lifting accessories must be deducted from the above lifting capacities. Lifting capacities are based on the machine standing on a firm, uniform supporting surface. The use of a work tool attachment point to handle/lift objects, could affect the machine lift performance.

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

313D Standard Equipment

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

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|--|---|--|
| <ul style="list-style-type: none"> Alternator, 50 amp Automatic engine speed control Bolt-on Falling Object Guard System (FOGS) capability Cab <ul style="list-style-type: none"> • Ashtray with cigar lighter • Coat hook • Beverage holder • Economy mode • Horn Language display monitor (full graphic/full color display) • Clock • Filter/fluid change information | <ul style="list-style-type: none"> • Level check for hydraulic oil, engine oil and coolant • Warning messages <ul style="list-style-type: none"> Product Link Light, interior Literature holder Metal roof with sunshade Openable front windshield Storage compartment Travel control pedals with removable hand levers Door locks and cap locks with one-key security system Light, storage box mounted (1) | <ul style="list-style-type: none"> Mirrors (frame and cab) <ul style="list-style-type: none"> Power Train <ul style="list-style-type: none"> • Cat® C4.2 engine with ACERT™ Technology • 24-volt electric starter • Air intake heater • Water separator • Water level indicator for water separator <ul style="list-style-type: none"> Radial seal air filter Third fuel filter <ul style="list-style-type: none"> Undercarriage <ul style="list-style-type: none"> • Idler section track guiding guards • Track-type undercarriage with grease lubricated seals |
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313D Optional Equipment

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

	mm	m ³
BUCKET		
358-4486 Bucket Ar, SD	1067	0.63
Includes:		
305-1849 Bucket, SD	1067	0.63
4I-7343 Sidecutters		
8E-3751 Tip, long, heavy duty (5 tips)		
370-3249 Bucket, GD	1050	0.65
Includes:		
367-2003 Bucket, GD	1050	0.65
4I-7343 Sidecutters		
9J-3169 Tip, long (6 tips)		

Weights are approximate.

313D Hydraulic Excavator

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

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

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