315F L Hydraulic Excavator 2017





Engine		Drive	
Engine Model	Cat [®] C4.4 ACERT™	Maximum Travel Speed	5.5 km/h
Net Power – SAE J1349/ISO 9249	72.3 kW (98 PS)	Maximum Drawbar Pull	112 kN
Engine Power – ISO 14396	74.4 kW (101 PS)	Weight	
		Minimum Operating Weight	14 500 kg
		Maximum Operating Weight	16 000 kg



Introduction

The new Cat 315F L compact radius excavator features a C4.4 ACERT engine that meets Japan 2014 (Tier 4 Final) emission standards and is miserly on fuel, paired with a state-of-the-art hydraulic system that's responsive to your every command. Each pull of the joysticks will feel like a natural extension of yourself, providing you with smooth, controlled power to take on the work in front of you with speed, precision, and confidence.

When you add in robust structures that keep you grounded and balanced, an operator environment that enhances your comfort and productivity, service points that make your routine maintenance fast and simple, available Cat Grade Control to help you create precise planes and slopes with ease, and multiple Cat work tools and tool control system that enable you to quickly take on a variety of tasks, you simply won't find a better built, more reliable, more versatile, or more rewarding excavator in its size class – from any company, anywhere.

Bottom line: If your work takes you in to tight spaces and you need the absolute best performance at the lowest cost per unit of work that you can possibly get from a 14-ton excavator, take along a Cat 315F L. You will be glad you did.



Contents

Hydraulics	4
Engine	6
Compact Radius	7
Operator Station	8
Integrated Technologies	9
Front Linkage	10
Structures & Undercarriage	11
Attachments	12
Serviceability	13
Safety	14
Complete Customer Care	15
Sustainability	16
Specifications	17
Standard Equipment	22
Optional Equipment	23



Key Performance Stats & Facts

Maximum Bucket Size 0.63 m³ 1200 mm Maximum Reach 8230 mm Maximum Dig Depth 5450 mm

Hydraulics You can move dirt, rock, and debris with speed, precision, and efficiency





A Forceful, Responsive Design

The 315F L features a negative flow control hydraulic system that gives you the feel and response of an open center valve system with the efficiency of a closed center valve system. In layman's terms, negative flow control decreases pump flow when oil pressure in the center bypass increases and vice versa. The net result is the pump and valve operate in harmony with less energy and less wear and tear.

A Logical Layout

All major hydraulic components are strategically located close together. This positioning leads to reduced friction loss and pressure drops, and the result is more hydraulic horsepower for the heavy-lifting, groundbreaking work you need to get done.

Valves For Added Efficiency

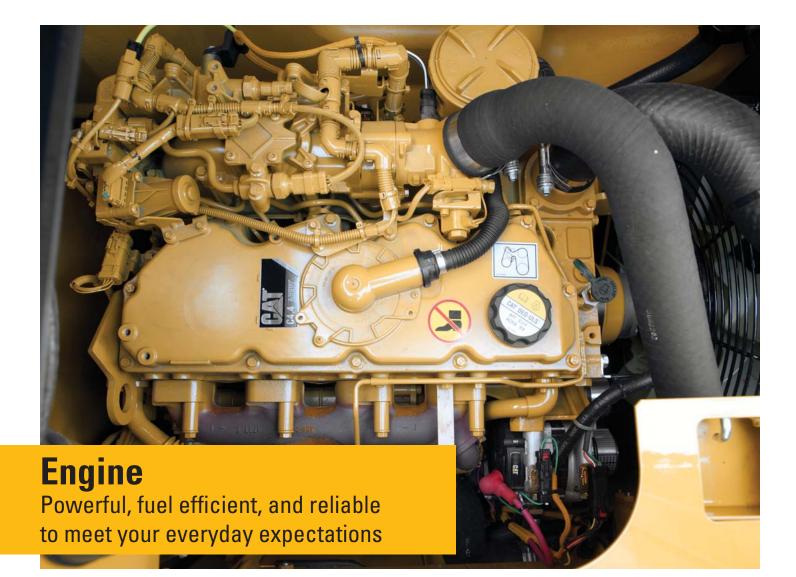
The 315F L is built with a back-to-back main control valve, and the benefit to you is reduced pressure loss and fuel consumption due to the shorter distance oil has to travel. The machine also features special boom and stick valves that recirculate oil flow in the cylinders during work instead of going all the way back to the tank. The valves contribute to energy savings, but their primary benefit is allowing more oil to flow to other functions so you can experience faster cycle times and more production.

Filter For Added Protection & Performance

The capsule filter is designed to take out impurities and help you avoid system contamination and accidental spilling. The self-contained, maintenance-friendly filter is easy to remove with a simple wrench. It can take out impurities as small as beta 10 – particles so tiny you cannot see them with the eye. A sensor lets you know if there is a clog or if pressure exceeds a certain level so you can take action.

Drain Filter

A drain filter is one extra level of contamination prevention the 315F L offers. Located in the pump compartment behind the pilot filter, the drain filter purifies the case drain from the main pumps, swing motor, and travel motors – all to enhance the life of the pumps and motors and uptime for you.



Proven Technology

Every Tier 4 Final ACERT engine is equipped with a combination of proven electronic, fuel, air, and aftertreatment components. Applying these time-tested technologies lets us meet your high expectations for productivity, fuel efficiency, reliability, and service life.

Following are the results you can expect:

- High performance across a variety of applications.
- Enhanced reliability through commonality and simplicity of design.
- Maximized uptime and reduced cost with world-class Cat dealer support.
- Minimized impact on emission systems with no operator interaction required.
- Durability with long service life.
- Same great power and response.



Work With Confidence

The 315F L's compact radius design makes it ideal for working confidently in space-restricted areas like road jobs with lane closures and next to buildings or other structures you'd like to keep from harm's way. With a front swing radius of 2.02 m and a tail swing radius of 1490 mm, the machine can dig, swing, and dump within a working space of 3.51 m. When rotated 90 degrees and working over the side, just 245 mm of counterweight extends beyond the track width, which allows trucks and jersey barriers to be positioned closer to the machine.

Work With Power

Unlike a standard radius machine, the 315F L's boom is positioned toward the center of the machine. Not only does this help reduce the front swing radius, but it also supports more lift capacity over the front due to greater stability.

Work With Comfort

The machine features a full-size ROPS-certified cab. With low sound levels, high visibility, convenient access to switches and controls, and a fully adjustable seat, you will find it comfortable to work in all day long.

Operator Station

Your operators will enjoy the incredibly quiet and comfortable cab



A Safe, Quiet Cab

The Roll-Over Protective Structure (ROPS) cab provides you with a safe working environment. It also contributes to your comfort because it's attached to a reinforced frame with special viscous mounts that limit vibration and unnecessary sound. Add in special roof lining and sealing and you have a cab that's as quiet inside as today's top pickup trucks.

Comfortable Seat

The seat is a mechanical suspension type with heat. It features a reclining back, upper and lower slide adjustments, and height and tilt angle adjustments to meet your needs for maximum comfort.

A Cool & Warm Environment

The automatic climate control system features multiple air outlets with filtered ventilation. Air flows on the floor, behind the seat, and in front of you to make your work in either hot or cold weather much more pleasant and productive.

Controls Just For You

The joystick consoles adjust to improve your comfort and productivity during the course of a day. The armrests telescope up and down just like a bicycle seat. Joysticks for tool control have buttons to make working with a two-way-flow grapple, thumb, and shear simple. The right joystick features a button that will reduce engine speed when you are not working to help save fuel. Touch it once and speed reduces; touch it again and speed increases for normal operation.

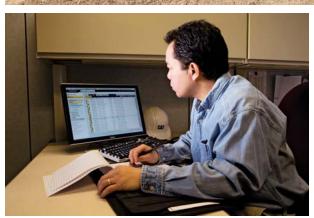
A Helpful Monitor

The LCD monitor is easy to see and navigate. Programmable in up to 42 languages to meet today's diverse workforce, the monitor clearly displays critical information you need to operate efficiently and effectively. Plus it projects the image from the standard rearview camera to help you see what's going on around you so you can stay safely focused on the job at hand.

Ample Storage & Auxiliary Power

Storage spaces are located in the front, rear, and side consoles of the cab. A drink holder accommodates a large mug, and a shelf behind the seat stores large lunch or toolboxes. Two 12-volt power supply sockets are conveniently located near the key storage areas for charging your electronic devices like an MP3 player, a cell phone, or a tablet.

Integrated Technologies Monitor, manage, and enhance your job site operations



Cat Connect

The smart use of technology and services will improve your job site efficiency. In fact, using data from technology-equipped machines give you more information and insight into your equipment and operations than ever before.

Cat Connect technologies offer improvements in these key areas:

• GRADE Technologies

GRADE technologies like Cat Grade Control Depth and Slope combine digital design data and in-cab guidance to help you work more productively and accurately with less rework. Real-time bucket tip positioning and cut and fill data on the standard cab monitor guide you to grade, saving money on fuel and materials.

• LINK Technologies

LINK technologies like Product Link[™] wirelessly connect you to your equipment, giving you valuable insight into how your machine or fleet is performing. The system tracks location, hours, fuel usage, productivity, idle time, and diagnostic codes through the online VisionLink[®] interface so you can make timely, fact-based decisions to maximize efficiency, improve productivity, and lower operating costs.



Front Linkage Options to take on your far-reaching and up-close tasks

Link & Pins

The power link between the stick and bucket is designed for heavy-duty lifting over the long haul. With an integrated lifting eye, the power link of the shovel crane helps enhance lifting capability by lowering your load point and maximizing the power built into the boom cylinders. All pins used in the front linkage have thick chrome plating to give them high wear and corrosion resistance. The large pins distribute load weight to ensure long pin, boom, and stick life.

Boom

A reach boom offers you excellent all-around versatility and a large working envelope. A unique bucket-to-cab avoidance feature is also included to ensure safe operation.

Sticks

The R3.0 m stick is best for when you need deep trenching, longer reach, and top truck loading capabilities. The R2.5 m stick provides greater breakout force and increases productivity when you primarily plan on using hydro-mechanical work tools.

Made To Last

Each boom and stick is built with internal baffle plates for additional durability, and each undergoes ultrasound inspection to ensure quality and reliability. Large box-section structures with thick, multi-plate fabrications, castings, and forgings are used in high-stress areas such as the boom nose, boom foot, and boom and stick cylinders to enhance durability for the tough work you do. Your Cat dealer can help you pick the best combination for your business.

Structures & Undercarriage

You can take on a variety of tough tasks with this designed-to-last machine



The 315F L is a well-built machine designed to give you a very long service life. The upper frame has mountings made specifically to support the heavy-duty cab; it's also reinforced around key areas that take on stress like the boom foot and skirt. Massive bolts are used to attach the track frames to the body, and additional bolts are used throughout to increase the machine's digging force, which leads to more productivity for you.





Durable Undercarriage

The 315F L undercarriage contributes significantly to its outstanding stability and durability. Track shoes, links, rollers, idlers, and final drives are all built with long-lasting, high-tensile-strength steel. Cat Grease Lubricated Track 2 (GLT2) track link protects moving parts by keeping water, debris, and dust out and grease sealed in, which delivers longer wear life and reduced noise when traveling. Optional guide guards help maintain track alignment to improve the machine's overall performance – whether you're traveling on a flat, heavy bed of rock or a steep, wet field of mud.

Great Weight

The 315F L has one counterweight option. Rounded to minimize the amount of overhang, the 3.06 t weight is mounted directly to the main frame using massive bolts to ensure maximum rigidity. Plus it has an integrated housing to help protect the machine's standard rearview camera.

Attachments

Tools to make you productive and profitable





Change Jobs Quickly

Cat quick coupler brings the ability to quickly change attachments and switch from job to job.

Dig, Finish, or Break

A range of buckets dig everything from top soil to abrasive material. For finishing and grading work, compact and shallow ditch cleaning buckets fit the need.

A hydraulic hammer equips the machine for breaking sidewalks, driveways, and pavement.

Set Up Your Machine For Profitability

Your Cat dealer can install hydraulic kits to properly operate all Cat Work Tool attachments – maximizing the machine's uptime and your profits. All Cat Work Tool attachments are supported by the same Cat dealer network as your Cat machine.







Serviceability Designed to make your maintenance quick and easy







On-Board Monitoring

The 315F L has a pre-start monitoring system that allows you to check coolant, hydraulic oil, and engine oil levels right inside the cab. The monitor also tells you fluid and filter change intervals to ensure you keep the machine in topperforming condition.

Safe, Convenient Access

You can see the service hour meter inside the cab and reach most routine maintenance items like fluid taps and grease points from the safety and convenience of ground level. Filters are banked together for higher service efficiency. Compartments feature wide service doors and heavy-duty hardware to keep them open – all to make service work simpler and more secure.

A Fresh Idea

The fresh air filter is conveniently located on the side of the cab to make it easy for you to reach and replace. It's protected by a lockable door that can only be opened with the engine key.

A Priming Solution

Located in the pump compartment, an electric fuel priming pump eliminates the need for you to manually prime after filter changes. It also eliminates the risk of fuel contamination by preventing unfiltered fuel from being backfilled during filter changes.

More Service Benefits

Drain lines beneath the machine make it easy and simple for you to remove water and sediment during routine maintenance. They also make it easy to change oil without special tools or the risk of spilling. Same goes for an integrated fuel level indicator that pops up to help you reduce the possibility of fuel tank overfilling.

Safety Features to help protect you day in and day out

A Safe, Quiet Cab

The roll-over protective structure (ROPS) cab provides you with a safe working environment when properly seated and belted. It also contributes to your comfort because it's attached to a reinforced frame with special viscous mounts that limit vibration and unnecessary sound, and it includes special roof lining and sealing to make it as quiet as any of today's top pickup trucks.

Secure Contact Points

Multiple large steps get you into the cab as well as a leg up to the compartments. Extended hand rails allow you to safely climb to the upper deck and removable anti-skid plates. Anti-skid plates reduce your slipping hazards in all types of weather conditions.

Great Views

Ample glass gives you excellent visibility out front and to the side, and the standard rearview camera gives you a clear field of view behind the machine through the cab monitor. The available split-configuration windshield features an upper window with handles that make it easy to slide and store above you and a lower window that can be removed and stored on the inside wall of the cab. The large skylight serves as an emergency exit and provides you with enhanced visibility.

Smart Lighting

Halogen lights provide plenty of illumination, and the cab and boom lights can be programmed to stay on for up to 90 seconds after the engine's been turned off to help you safely exit the machine.



Guard Options

The 315F L can be equipped with several guarding options. Following are just a few:

- Falling Object Guarding System (FOGS)
- Full-length wire mesh
- Heavy-duty bottom guards
- Track guiding guards



Expert Advice You Can Trust

What are the job requirements and machine attachments? What production is needed? Your Cat dealer can provide recommendations to help you make the right machine choices.

Support Agreements To Fit Your Needs

Cat dealers offer a variety of customer support agreements and work with you to develop a plan to meet your specific needs. These plans can cover the entire machine, including attachments, to help protect your investment.

Parts When & Where You Need Them

Cat dealers utilize a worldwide parts network to maximize your machines' uptime. Plus they can help you save money with Cat remanufactured components.

Operating Techniques To Boost Your Profits

Improving operating techniques can boost your profits. Your Cat dealer has videos, literature, and other ideas to help you increase productivity. Caterpillar also offers simulators and certified operator training to help maximize the return on your investment.

Financial Options Just For You

Consider financing options and dayto-day operating costs. Look at dealer services that can be included in the machine's cost to yield lower owning and operating costs over time.

What's Best For You Today...& Tomorrow

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



Sustainability Generations ahead in every way

- The C4.4 ACERT engine meets Japan 2014 (Tier 4 Final) emission standards.
- The 315F L has the flexibility of running on ultra-low-sulfur diesel (ULSD) fuel with 15 ppm.
- An overfill indicator rises when the fuel tank is full to help your service technicians avoid spilling.
- An unique engine oil filter eliminates the need for painted metal cans and aluminum top plates. The cartridge-style spin-on housing enables the internal filter to be separated and replaced; the used internal element can be incinerated to help reduce waste.
- The machine is built to be rebuilt with major structures and components capable of being remanufactured to reduce waste and replacement costs.
- The 315F L is an efficient, productive machine that reduces impact on natural resources for future generations.

Engine	
Engine Model	Cat C4.4 ACERT
Engine Power – ISO 14396	74.4 kW (101 PS)
Net Power – SAE J1349/ISO 9249	72.3 kW (98 PS)
Bore	105 mm
Stroke	127 mm
Displacement	4.4 L

Weight

Minimum Operating Weight*	14 500 kg	
Maximum Operating Weight**	16 000 kg	

*4.65 m reach boom, 2.5 m stick, 500 mm shoes, no blade. **4.65 m reach boom, 3.0 m stick, 700 mm shoes, blade.

Hydraulic System

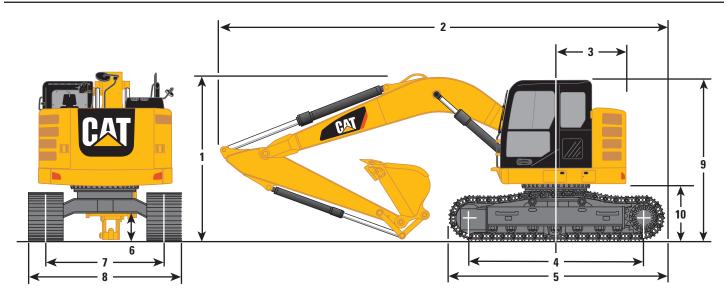
Main System – Maximum Flow	256 L/min
(Total)	
Maximum Pressure – Equipment	30 500 kPa
Maximum Pressure – Travel	35 000 kPa
Maximum Pressure – Swing	23 000 kPa
Pilot System – Maximum Flow	21.9 L/min
Pilot System – Maximum Pressure	4120 kPa
Boom Cylinder – Bore	110 mm
Boom Cylinder – Stroke	1000 mm
Stick Cylinder – Bore	120 mm
Stick Cylinder – Stroke	1197 mm
Bucket Cylinder – Bore	100 mm
Bucket Cylinder – Stroke	939 mm

Drive	
Maximum Travel Speed	5.5 km/h
Maximum Drawbar Pull	112 kN
Swing Mechanism	
Swing Speed	11 rpm
Swing Torque	30.9 kN·m
Service Refill Capacities	
Fuel Tank Capacity	178 L
DEF Tank Capacity	20 L
Cooling System	28 L
Engine Oil (with filter)	13.5 L
Swing Drive (each)	3 L
Final Drive (each)	3 L
Hydraulic System (including tank)	160 L
Hydraulic Tank	84 L
Track	
Long Undercarriage	

Long Undercarriage	
Number of Shoes (each side)	46 pieces
Number of Track Rollers (each side)	7 pieces
Number of Carrier Rollers (each side)	2 pieces

Dimensions

All dimensions are approximate.

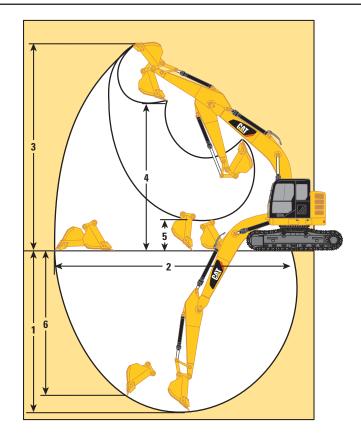


Boom Type	Reach Boom 4.65 m		
Stick Size	R3.0 m	R2.5 m	
1 Shipping Height	3000 mm	3000 mm	
2 Shipping Length			
Long Undercarriage	7450 mm	7450 mm	
Long Undercarriage with Blade	8010 mm	8010 mm	
3 Tail Swing Radius			
Counterweight	1490 mm	1490 mm	
4 Length to Center of Rollers – Long Undercarriage	3040 mm	3040 mm	
5 Track Length – Long Undercarriage	3750 mm	3750 mm	
6 Ground Clearance	440 mm	440 mm	
7 Track Gauge – Long Undercarriage (shipping)*	1990 mm	1990 mm	
8 Transport Width – Long Undercarriage			
500 mm Shoes	2490 mm	2490 mm	
600 mm Shoes	2590 mm	2590 mm	
700 mm Shoes	2690 mm	2690 mm	
9 Cab Height	2810 mm	2810 mm	
Cab Height with Top Guard	2950 mm	2950 mm	
10 Counterweight Clearance	860 mm	860 mm	

*With GD 0.52 m³ bucket.

Working Ranges

All dimensions are approximate.



R3.0 m	
115.0 111	R2.5 m
0.52 m ³	0.52 m ³
5950 mm	5450 mm
8680 mm	8230 mm
9640 mm	9310 mm
7190 mm	6860 mm
2060 mm	2500 mm
5280 mm	4880 mm
	5950 mm 8680 mm 9640 mm 7190 mm 2060 mm

Major Component Weights

Base Machine with Boom Cylinder without Counterweight, Front Linkage and Track	5100 kg
Long Undercarriage	2650 kg
Counterweight	3060 kg
Boom (includes lines, pins and stick cylinder)	
Reach Boom – 4.65 m	1030 kg
Stick (includes lines, pins, bucket cylinder and bucket linkage)	
R3.0 m	670 kg
R2.5 m	590 kg
Track Shoe (Long/per two tracks)	
500 mm Triple Grouser	1570 kg
600 mm Triple Grouser	1820 kg
700 mm Triple Grouser	2090 kg
Quick Coupler (NEW PIN grabber coupler) with PIN	212 kg
Blade	
2500 mm	830 kg
2600 mm	830 kg
2700 mm	840 kg
Bucket with Sidecutter and Tip	
GD 0.52 m ³	420 kg

All weights are rounded up to nearest 10 kg.

Base machine includes 75 kg operator weight, 90% fuel weight, and undercarriage with center guard.

Operating Weight and Ground Pressure

	700 mm		600 mm		500 mm		
	Triple Grou	Triple Grouser Shoes		Triple Grouser Shoes		Triple Grouser Shoes	
	kg	kPa	kg	kPa	kg	kPa	
Long Undercarriage without Bla	le – 3.06 t Counterwei	ght					
Reach Boom – 4.65 m							
R3.0 m	15 100	32.2	14 800	36.8	14 600	43.4	
R2.5 m	15 000	31.9	14 700	36.7	14 500	43.2	
Long Undercarriage with Blade -	- 3.06 t Counterweight						
Reach Boom – 4.65 m							
R3.0 m	16 000	34.0	15 700	38.9	15 400	45.9	
R2.5 m	15 900	33.8	15 600	38.6	15 300	45.6	

Bucket and Stick Forces

Boom Type	Reach Boom 4.65 m	
Stick Size	R3.0 m	R2.5 m
Bucket	0.52 m ³	0.52 m ³
Bucket Digging Force (ISO)	95 kN	95 kN
Stick Digging Force (ISO)	58 kN	65 kN

Caterpillar recommends using appropriate work tools to maximize the value customers receive from our products. Use of work tools, including buckets, which are outside of Caterpillar's recommendations or specifications for weight, dimensions, flows, pressures, etc. may result in less-than-optimal performance, including but not limited to reductions in production, stability, reliability, and component durability. Improper use of a work tool resulting in sweeping, prying, twisting and/or catching of heavy loads will reduce the life of the boom and stick.

Work Tool Offering Guide*

Boom Type		Reach Boom	
Stick Size		R2.5 m	R3.0 m
Hydraulic Hammer		H110E s H115E s	H110E s H115E s
Demolition and Sorting Grapple			
Scrap and Demolition Shear			
Compactor			
Orange Peel Grapple		These work tools are available for the 315F L.	
Ripper		Consult your Cat dealer for proper match.	
Dedicated Quick Coupler			
Pin Grabber Coupler	Cat PG		

*Offerings not available in all areas. Matches are dependent on excavator configurations. Consult your Cat dealer to determine what is offered in your area and for proper work tool match.

Standard Equipment

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

CAB

- Pressurized operator station with positive filtration
- Sliding upper door window (left-hand cab door)
- Removable lower windshield with in cab storage bracket
- Coat hook
- Beverage holder
- Literature holder
- AM/FM radio
- Radio with MP3 auxiliary audio port
- · Two stereo speakers
- Storage shelf suitable for lunch or toolbox
- Color LCD display with indicators, filter/fluid change, and working hour information
- Adjustable armrest
- Height adjustable joystick consoles
- Neutral lever (lock out) for all controls
- Travel control pedals with removable hand levers
- Capability of installing additional pedal
- Power outlets, 5 amp
- Travel alarm
- Laminated glass front upper window and tempered other windows

ELECTRICAL

- 80 amp alternator
- Circuit breaker
- · Capability to electrically connect a beacon

ENGINE

- C4.4 ACERT diesel engine
- Meets Japan 2014 (Tier 4 Final) emission standards
- 2300 m altitude capability
- Electric priming pump
- Automatic engine speed control
- Economy and standard modes
- Two-speed travel
- Side-by-side cooling system
- Radial seal air filter
- Primary filter with water separator and water separator indicator
- Secondary filter
- Screen filter in fuel line
- Variable speed fan with viscous clutch

HYDRAULIC SYSTEM

- Boom drift reduction valve
- Regeneration circuit for boom and stick
- Reverse swing dampening valve
- Automatic swing parking brake
- High-performance hydraulic return filter

LIGHTS

- Halogen boom light (left side)
- Time delay function for boom light and cab light
- Exterior light

UNDERCARRIAGE

- Grease Lubricated Track GLT2, resin seal
- Towing eye on base frame

SECURITY

- Cat one key security system
- Security system fitted (MSS)
- Door locks
- · Cap locks on fuel and hydraulic tanks
- Lockable external tool/storage box
- Signaling/warning horn
- · Secondary engine shutoff switch
- Rear window for emergency exit
- Guard, travel motor protection
- Rearview camera

TECHNOLOGY

• Product Link

315F L Optional Equipment

Optional Equipment

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

CAB

- Seat, high-back mechanical suspension
- Right pedal
- Cab mirror
- Ashtray

COUNTERWEIGHT

• 3.06 t without lifting eye

ELECTRICAL

 \bullet Cold weather battery –25° C

FRONT LINKAGE

- Quick coupler
- Bucket linkage
- 4.65 m Reach Boom
- 2.5 m stick
- 2.5 m stick with Cat Grade Control
- 3.0 m stick

HYDRAULIC SYSTEM

- Control pattern quick-changer
- Auxiliary hydraulics
- Boom and stick lines
- High-pressure line
- Medium-pressure line
- Quick coupler line
- Boom lowering and stick lowering control device

LIGHTS

- Working light, cab mounted with time delay
- Halogen boom lights (right side)

UNDERCARRIAGE

- Center track guiding guard
- 500 mm triple grouser shoes
- 600 mm triple grouser shoes
- 700 mm triple grouser shoes
- 2500 mm blade with replaceable cutting edge
- 2600 mm blade with replaceable cutting edge
- 2700 mm blade
- Swivel guard

SECURITY

- Guard, cab front, mesh
- Bottom guards, heavy duty

TECHNOLOGY

Cat Grade Control Depth and Slope

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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Based on the Labor, Safety and Health Laws in Japan, employer of small construction equipment are required to provide specific training for all operators on machines with ship weight less than 3 metric ton. For machines greater than 3 metric ton, operator needs to obtain operator license certification from a Government approved registered training school.

AEHQ8054 (Japan)

