330F L

Hydraulic Excavator 2017





Engine	
Engine Model	Cat® C7.1 ACERT™
Gross Power – SAE J1995	178 kW
Net Power – SAE J1349	175 kW

Drive		
Maximum Travel Speed	5.1 km/h	
Maximum Drawbar Pull	247 kN	
Weight		
Operating Weight	29 500 kg	



Introduction

The 330F L is built to keep your production numbers high and your owning and operating costs low. The machine's C7.1 ACERT engine not only meets Japan 2014 (Tier 4 Final) emission standards, but it does so with all the power, fuel efficiency, and reliability you need to be successful.

Where the real power comes in is through Caterpillar's unparalleled systems integration and state-of-the-art hydraulic system. You can literally move tons of material all day long with tremendous speed and precision. When you add a quiet operator environment that keeps you comfortable and productive, easy-to-reach service points that make routine maintenance simple and fast, and multiple Cat work tools that help you take on a variety of tasks with just one machine, you simply won't find a better, more efficient 29-ton excavator.

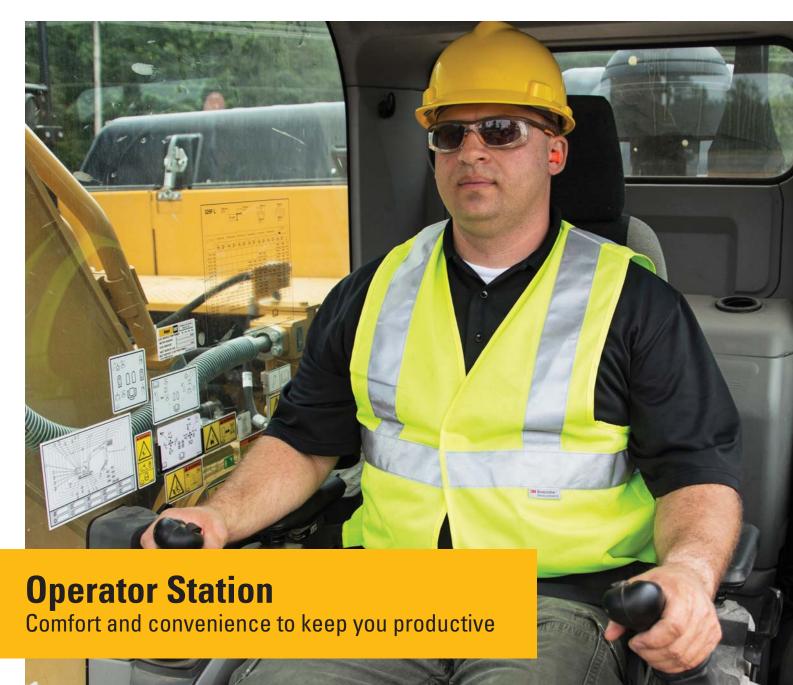
If productivity, comfort, versatility, and fuel efficiency are what you want, you need a 330F L in your fleet.

Contents

Operator Station	4
Engine	6
Hydraulics	7
Structures & Undercarriage	8
Front Linkage	9
Integrated Technologies	10
Serviceability	11
Attachments	12
Safety	14
Complete Customer Care	15
Sustainability	16
Specifications	17
Standard Equipment	24
Optional Equipment	25
Notes	26









A Safe, Quiet Cab

The 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 Options

The seat range includes air suspension, heated, and air cooled. All seats include 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 right and left joystick consoles can be adjusted to improve your comfort and productivity during the course of a day. Also, 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 44 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 with handle, 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 portable transceiver.







Engine

Powerful and fuel efficient to meet your expectations



Proven Technology

Every Japan 2014 (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.
- Better fuel economy with minimized maintenance costs.
- Same great power and response.

A Cool Design for Any Temperature

The 330F features a side-by-side cooling system that allows you to put the machine to work in extremely hot and cold conditions. The system is completely separated from the engine compartment to reduce noise and heat. Plus it features easy-to-clean cores and an efficient variable-speed fan.

Diesel Exhaust Fluid (DEF)

Cat engines equipped with an SCR system inject DEF into the exhaust to reduce $\rm NO_x$ emissions. DEF is a precisely mixed solution of 32.5% high purity chemical grade urea and 67.5% de-ionized water. DEF used in Cat SCR systems must meet the requirements outlined in the International Organization for Standardization (ISO) standard 22241-1.

A Powerful, Efficient Design

When it comes to moving heavy material quickly and efficiently, you need hydraulic horsepower – the type of ground-breaking power the 330F L can deliver. Major hydraulic components like pumps and valves are located close together so shorter tubes and lines can be used. This design leads to less friction loss, reduced pressure drops, and more power to the ground for the work you need to get done.



Hydraulics

Power to move your material with speed and precision



Boom & Stick Oil Re-Circulation For Added Efficiency

The 330F L regenerates the flow of oil from the head end of the boom and stick cylinders to the rod end of the boom and stick cylinders during the work cycle to save energy and improve fuel efficiency. It's optimized for any dial speed setting you select, which results in less pressure loss for higher controllability, more productivity, and lower operating costs for you.

Control Like No Other

Controllability is one of the main attributes of Cat excavators, and one of the key contributors to this is the main control valve. The valve opens slowly when your range of joystick lever movement is small and opens rapidly when movement is high. It puts flow where you need it when you need it, which leads to smoother operation, greater efficiency, and lower fuel consumption.

Auxiliary Hydraulics For Added Versatility

Auxiliary hydraulics give you greater tool versatility so you can take on more work with just one machine, and there are several options from which you can choose.



Structures & Undercarriage

Made to work in your tough applications

Robust Frame

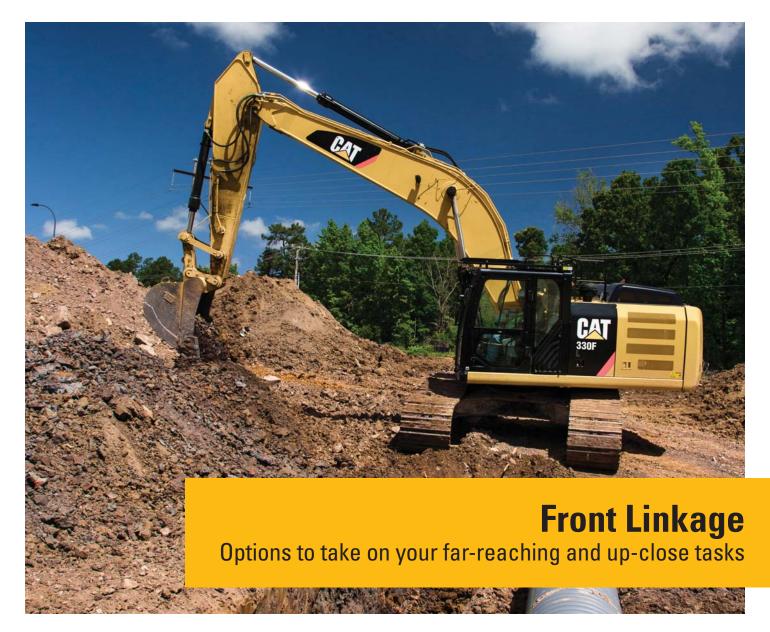
The 330F L is a well-built machine designed to give you a very long service life. The upper frame has mountings made specifically to support the heavy-duty cab; it is also reinforced around key areas that take on stress like the boom foot and skirt. Massive bolts are used to attach the track frames to the body, and additional bolts are used to increase the machine's digging force, which leads to more productivity for you.

Durable Undercarriage

The 330F 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.

Counterweight

5.8 mt counterweight is built with thick steel plates and reinforced fabrications to make it less susceptible to damage. It has a curved surface that matches the machine's sleek, smooth appearance along with integrated housings to help protect the standard rearview camera.



Booms & Sticks

The 330F L is offered with a range of booms and sticks. Each is built with internal baffle plates for added durability, and each undergoes ultrasound inspection to ensure weld 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, boom cylinder, and stick foot to improve durability. The boom nose pin is a captured flag design for enhanced durability.

Two Types Available

The Standard and HD reach booms have two stick options available to meet all your application requirements.

HD = **Heavy Duty**

HD front is used for quarry, demolition, and material handling applications in Japan.

Integrated Technologies

Monitor, manage, and enhance your job site operations





Cat Connect makes smart use of technology and services to improve your job site efficiency. Using the data from technology-equipped machines, you'll get more information and insight into your equipment and operations than ever before.

Cat Connect technologies offer improvements in these key areas:



Equipment Management – increase uptime and reduce operating costs.



Productivity – monitor production and manage job site efficiency.



Safety – enhance job site awareness to keep your people and equipment safe.

LINK Technologies

LINK technologies like Product LinkTM 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.

Ground-Level Access

You can reach most routine maintenance items like fluid taps and grease points from the safety and convenience of ground level. Not only do compartments feature wide service doors designed to help prevent debris entry, but they also securely latch in place to help make your service work simpler.



Serviceability

Designed to make your maintenance quick and easy

A Cool Design

The high-ambient cooling system features a fuel-saving variable-speed fan and a side-by-side-mounted radiator and oil and air coolers for easy cleaning. Wider clearance between the two make blowing off debris easy for you, which can help improve your machine's reliability and performance.

A Fresh Idea

When you select ventilation inside the cab, outside air enters through the fresh air filter. The filter is conveniently located on the side of the cab to make it easy to reach and replace, and it is protected by a lockable door that can be opened with the engine key.



Other Service Benefits

The fuel tank's drain cock makes it easy and simple for you to remove water and sediment during routine maintenance. Plus an integrated fuel level indicator pops up to help you reduce the possibility of fuel tank overfilling.

Attachments

Tools to make you productive and profitable



Get The Most Out Of One Machine

You can easily expand the performance of your machine by utilizing any of the variety of attachments offered by Cat Work Tools.

Change Jobs Quickly

A quick coupler brings the ability to quickly change attachments and switch from job to job. The Cat Pin Grabber coupler is the secure way to decrease downtime and increase job site flexibility and overall productivity.

Dig, Finish, Load & Compact

A wide range of buckets dig everything from top soil to harsh, abrasive material. For finishing and grading work, compact and shallow ditch cleaning buckets fit the need. A Cat compactor prepares the area for the next phase of construction.

Mining, Demolition & Scrap

A hydraulic hammer equips your machine for breaking rock in quarries and preparing trenches on construction sites.

Taking down bridge pillars and heavily reinforced concrete is no problem. Multi-processor, pulverizer, and shear attachments take your machine into structure demolition jobs and process the debris for reuse and recycle.

Move & Handle

Add a thumb and you have the ability to move and handle brush, rocks, and debris. For constant material handling, a grapple is your solution. Choose from three different styles for picking, sorting, and loading trash, demolition debris, or recyclables.

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.



Safety

Features to help protect you day in and day out



The 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. Add in special roof lining and sealing and you have a cab that's as quiet inside 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 and guard rails allow you to safely climb to the upper deck. Anti-skid plates reduce your slipping hazards in all types of weather conditions, and they can be removed for cleaning.

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 also serves as an emergency exit and provides you with enhanced overhead 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 has been turned off to help you safely exit the machine.









Worldwide Parts Availability

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

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.

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.

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.

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.

What's Best For You Today... And 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 C7.1 ACERT engine meets Japan 2014 (Tier 4 Final) emission standards.
- A ground-level overfill indicator rises when the tank is full to help the operator avoid spilling.
- The 330F L is built to be rebuilt with major structures and components capable of being remanufactured to reduce waste and replacement costs.
- An 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 330F L is an efficient, productive machine that's designed to conserve our natural resources for generations ahead.

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[•] Power rating at 1,800 rpm

Weights	
Minimum Operating Weight*	29 500 kg
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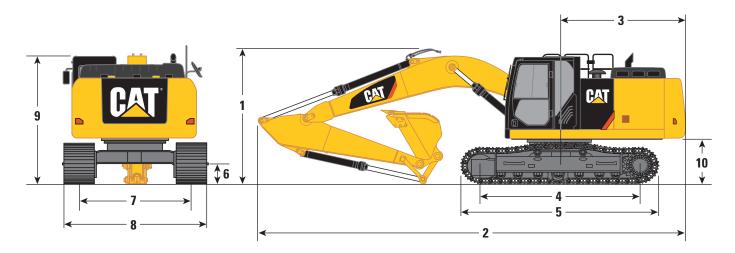
^{*6.15} m Reach Boom, R3.2CB2 Stick, 600 mm TG Shoes, 5.8 mt Counterweight, 1.5 m³ Bucket.

Hydraulic System	
Main System – Maximum Flow (Total)	493 L/min
Maximum Pressure – Equipment Heavy Lift	38 000 kPa
Maximum Pressure – Equipment Normal	35 000 kPa
Maximum Pressure – Travel	37 000 kPa
Maximum Pressure – Swing	27 400 kPa
Pilot System – Maximum Flow	23 L/min
Pilot System – Maximum Pressure	4100 kPa
Boom Cylinder – Bore	140 mm
Boom Cylinder – Stroke	1407 mm
Stick Cylinder – Bore	150 mm
Stick Cylinder – Stroke	1646 mm
CB2 Bucket Cylinder – Bore	150 mm
CB2 Bucket Cylinder – Stroke	1151 mm

Drive	
Maximum Gradeability	35°/70%
Maximum Travel Speed	5.1 km/h
Maximum Drawbar Pull	247 kN
Swing Mechanism	
Swing Speed	9.6 rpm
Maximum Swing Torque	105 kN·m
Service Refill Capacities	
Fuel Tank Capacity	520 L
Cooling System	30 L
Engine Oil (with filter)	24 L
Swing Drive (each)	9 L
Final Drive (each)	6 L
Hydraulic System (including tank)	310 L
Hydraulic Tank	175 L
DEF Tank	41 L
Track	
Number of Shoes (each side)	
Long Undercarriage	50
Number of Track Rollers (each side)	
Long Undercarriage	9
Number of Carrier Rollers (each side)	
Long Undercarriage	2
Standards	
Brakes	ISO 10265 2008
Cab/FOGS	ISO 10262 1998
Cab/ROPS	ISO 12117-2 2008

Dimensions

All dimensions are approximate.



Boom Type	Reach Boom^ 6.15 m
Stick Size	R3.2CB2***
1 Shipping Height*	3370 mm
2 Shipping Length	10 390 mm
3 Tail Swing Radius	3090 mm
4 Length to Center of Rollers	
Long Undercarriage	3990 mm
5 Track Length	
Long Undercarriage	4860 mm
6 Ground Clearance**	490 mm
7 Track Gauge	
Long Undercarriage	2590 mm
8 Transport Width	
Long Undercarriage – 600 mm Shoes	3190 mm
Long Undercarriage – 800 mm Shoes 3390 mm	
9 Cab Height*	3040 mm
10 Counterweight Clearance**	1110 mm

^{*}Including shoe lug height.

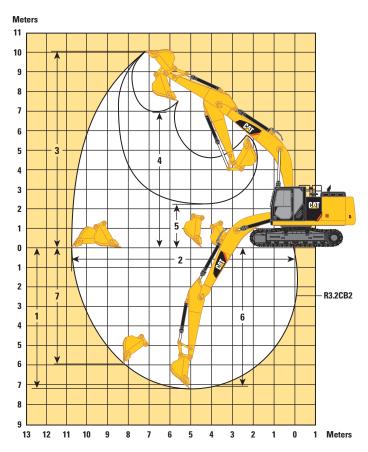
^{**}Without shoe lug height.

^{***}Bucket – 1.5 m³.

[^]HD Reach Boom measurements are the same as Reach Boom.

Working Ranges

All dimensions are approximate.



Boom Type	Reach Boom* 6.15 m		
Stick Size	R3.2CB2		
1 Maximum Digging Depth	7250 mm		
2 Maximum Reach at Ground Level	10 680 mm		
3 Maximum Cutting Height	10 010 mm		
4 Maximum Loading Height	6940 mm		
5 Minimum Loading Height	2290 mm		
6 Maximum Depth Cut for 2440 mm Level Bottom	7090 mm		
7 Maximum Vertical Wall Digging Depth	5990 mm		
Bucket Type	HD Bucket		
Bucket Capacity	1.5 m³		
Bucket Tip Radius	1650 mm		

^{*}HD Reach Boom measurements are the same as Reach Boom.

Operating Weight and Ground Pressure

				Tra	ack Shoes – Lon	ıg Undercarriage		
		-	600 mm Doul	ble Grouser	600 mm Trip	le Grouser	800 mm Trip	le Grouser
			Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure
Boom	Stick	Bucket	kg	kPa	kg	kPa	kg	kPa
Reach Boom – 6.15 m	R3.2CB2	CB1350HD – 1.5 m³	29 810	56.7	29 380	55.9	30 350	43.3
Reach Boom – 6.15 m	R3.2CB2 HD	CB1350HD – 1.5 m ³	30 150	57.3	29 720	56.5	30 690	43.8

Operating Weight is based on ISO 6016.

Major Component Weights

	kg
Base Machine (includes boom cylinders, pins, fluids)	8660
Full Fuel Tank	420
Counterweight	5800
Boom (includes lines, pins, and stick cylinder)	
Reach Boom – 6.15 m	2240
HD Reach Boom – 6.15 m	2390
Stick (includes lines, stick pins, bucket pins, and bucket cylinder)	
R3.2CB2	1180
R3.2CB2 HD	1370
Bucket Linkage	
CB2 without Lifting Eye	280
Undercarriage	
Long Undercarriage	6000
Track Shoes	
600 mm Double Grouser Shoes for Long Undercarriage	4010
600 mm Triple Grouser Shoes for Long Undercarriage	3580
800 mm Triple Grouser Shoes for Long Undercarriage	4550
Buckets	
CB1350HD – 1.5 m ³	1130

All weights are rounded up to nearest 10 kg except for buckets.

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

Bucket and Stick Forces

			Stick Cylinder	Bucket Cylinder	
	Stick	Bucket	kN	kN	
ISO: Cutting Edge					
Reach Boom – 6.15 m	R3.2CB2	1.5 m³ HD	126	179	
SAE: Bucket Tip					
Reach Boom – 6.15 m	R3.2CB2	1.5 m³ HD	123	158	

Work Tool Offering Guide*

Boom Type	Reach Boom HD
Stick Size	R3.2 HD
Hydraulic Hammer	H120Es H130Es H140Es
Multi-Processor	MP324 CC Jaw MP324 D Jaw MP324 P Jaw** MP324 S Jaw MP324 TS Jaw** MP324 U Jaw
Pulverizer	P225
Demolition and Sorting Grapple	G320B-D/R G325B-D/R***
Scrap and Demolition Shear	\$320B \$325B*** \$340B#
Compactor (Vibratory Plate)	CVP110
Contractors' Grapple	G120B - G130B
Orange Peel Grapple	
Rippers	
Trash Grapple	
Thumbs	These work tools are available for the 330F L. Consult your Cat dealer for proper match.
Rakes	
Pin Grabber Coupler	Cat-PG
Dedicated Quick Coupler	

^{*}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.

#Boom mount.

^{**}Pin-on or Dedicated Quick Coupler.

^{***}Pin-on only.

Bucket Availability

Size	Туре	Link	
1.1 m ³	GD	СВ	
1.2 m ³	GD	СВ	
1.3 m ³	HD	СВ	
1.5 m ³	GD	СВ	330F L Standard Bucket

330F L Standard Equipment

Standard Equipment

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

ENGINE

- C7.1 ACERT diesel engine
- Meets Japan 2014 (Tier 4 Final) emission standards
- 4600 m altitude capability
- Electric fuel lifting pump
- Automatic engine speed control
- Standard, economy power modes
- · Two-speed travel
- Side-by-side cooling system
- · Radial seal air filter
- Primary filter with water separator and water separator indicator switch
- Fuel differential indicator switch in fuel line
- 1×4 micron main filters
- 1×10 micron primary fuel line filter

HYDRAULIC SYSTEM

- Electric boom regeneration circuit
- Stick regeneration circuit
- Reverse swing dampening valve
- · Automatic swing parking brake
- High-performance hydraulic return filter
- Capability of installing HP stackable valve and medium pressure valve
- Capability of installing additional auxiliary pump and circuit
- Capability of installing boom lowering control device and stick lowering check valve

CAB

- Flexible bucket seat belt
- Pressurized operator station with positive filtration
- · Mirror package
- Sliding upper door window (left-hand cab door)
- · Glass-breaking safety hammer
- Removable lower windshield with in cab storage bracket
- · Coat hook
- · Beverage holder
- · Literature holder
- Radio with MP3 auxiliary audio port
- Two stereo speakers
- Storage shelf suitable for lunch or toolbox
- Color LCD display with warning, 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 two additional pedals
- Two power outlets, 10 amp (total)
- Laminated glass front upper window and tempered other windows
- Cab hatch emergency exit
- · AM/FM radio
- Seat, high-back air suspension with heater and cooling
- Sunscreen
- · Windshield wiper, with washer

UNDERCARRIAGE

- Grease Lubricated Track GLT2, resin seal
- Towing eye on base frame
- · Guard, heavy-duty bottom

COUNTERWEIGHT

• 5.8 mt

FRONT LINKAGE

• Bucket linkage, CB2 family without lifting eye

ELECTRICAL

- 115 amp alternator
- Circuit breaker

LIGHTS

- · Boom light with time delay
- · Cab lights with time delay
- Exterior lights integrated into storage box
- · Working lights, cab mounted with time delay
- Halogen boom lights

SECURITY

- Cat one key security system
- Door locks
- Cap locks on fuel and hydraulic tanks
- Lockable external tool/storage box
- Signaling/warning horn
- · Secondary engine shutoff switch
- Openable skylight for emergency exit
- Rearview camera
- MSS (Machine Security System)

TECHNOLOGY

• Product Link

330F L Optional Equipment

Optional Equipment

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

ENGINE

- Jump start receptacle
- · Quick drains, engine and hydraulic oil

HYDRAULIC SYSTEM

- Control pattern quick-changer, four way
- · Additional circuit
- Boom and stick lines
- High-pressure line
- Medium-pressure line
- Tool control system

UNDERCARRIAGE

- 600 mm double grouser shoes
- 600 mm triple grouser shoes
- 800 mm triple grouser shoes
- Guard, full length for long undercarriage
- Segmented (3 piece) track guiding guard

FRONT LINKAGE

- HD Reach 6.15 m boom
- Reach 6.15 m boom
- HD R3.2 m stick
- R3.2 m stick

OPTIONAL EQUIPMENT – DEALER INSTALLED

- · Rain protector for front windshield
- Seat belt, retractable (76 mm width)
- Ashtray for cup holder
- FOGS retrofit kit package
- Mesh for front guard retrofit kit package
- Mesh guard, lower half front
- Side rubber bumper
- Travel alarm

Notes

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

AEHQ7908 (Japan)

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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.

