



313

Hydraulic Excavator

Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

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313 Hydraulic Excavator Specifications

Engine

Engine Model	Cat® C3.6	
Net Power		
ISO 9249	80.9 kW	108 hp
ISO 9249 (DIN)	110 hp (metric)	
Engine Power		
ISO 14396	82 kW	110 hp
ISO 14396 (DIN)	111 hp (metric)	
Bore	98 mm	4 in
Stroke	120 mm	5 in
Displacement	3.6 L	220 in ³
Biodiesel Capability	Up to B20 ⁽¹⁾	

- Meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
- No engine power derating required below 3000 m (9,840 ft) altitude.
- Advertised power is tested per the specified standard in effect at the time of manufacture.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air intake system, exhaust system and alternator.
- Engine speed at 2,400 rpm.

⁽¹⁾Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:

- ✓ 20% biodiesel FAME (fatty acid methyl ester)*
- ✓ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or “Caterpillar Machine Fluids Recommendations” (SEBU6250) for details.

*Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel.

Swing Mechanism

Swing Speed	11.5 rpm	
Maximum Swing Torque	35 kN·m	25,741 lbf·ft

Weights

Operating Weight	12 700 kg	28,000 lb
------------------	-----------	-----------

- Standard undercarriage, Reach boom, R2.5 (8'2") stick, GDX 0.52 m³ (0.68 yd³) bucket, 500 mm (20") triple grouser shoes and 2.14 mt (4,718 lb) counterweight.

Track

Standard Track Shoes Width	500 mm	20 in
Optional Track Shoes Width	600 mm	24 in
Optional Track Shoes Width	700 mm	28 in
Number of Shoes (each side)	43	
Number of Track Rollers (each side)	6	
Number of Carrier Rollers (each side)	1	

Drive

Gradeability	35°/70%	
Maximum Travel Speed	5.4 km/h	3.4 mph
Maximum Drawbar Pull – Standard Undercarriage	117 kN	26,303 lbf

Hydraulic System

Main System – Maximum Flow – Implement	247 L/min	65 gal/min
Maximum Pressure – Equipment – Normal	35 000 kPa	5,075 psi
Maximum Pressure – Travel	35 000 kPa	5,075 psi
Maximum Pressure – Swing	26 000 kPa	3,770 psi
Boom Cylinder – Bore	105 mm	4 in
Boom Cylinder – Stroke	1026 mm	40 in
Stick Cylinder – Bore	115 mm	5 in
Stick Cylinder – Stroke	1147 mm	45 in
Bucket Cylinder – Bore	95 mm	4 in
Bucket Cylinder – Stroke	939 mm	37 in

Service Refill Capacities

Fuel Tank Capacity	258 L	68.2 gal
Cooling System	15 L	4 gal
Engine Oil	8 L	2.1 gal
Final Drive (each)	3 L	0.8 gal
Hydraulic System (including tank)	85 L	22.5 gal
Hydraulic Tank	70 L	18.5 gal
DEF Tank	21 L	5.6 gal

Standards

Brakes	ISO 10265:2008
Cab/ROPS	ISO 12117-2:2008
Cab/FOGS	ISO 10262:1998

Sound Performance

ISO 6395 (external)	100 dB(A)
ISO 6396 (inside cab)	68 dB(A)

- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.
- 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 a noisy environment.

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Weights and Ground Pressures

	500 mm (20") Triple Grouser Shoes		500 mm (20") Rubber Track Shoes		600 mm (24") Triple Grouser Shoes		700 mm (28") Triple Grouser Shoes	
	Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure
	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)
Base Machine Configurations								
Base Frame with Track Rollers and Carrier Rollers								
2.14 mt (4,718 lb) Counterweight + Standard Undercarriage Base Machine								
Reach Boom + R2.5 (8'2") Stick + 0.52 m ³ (0.68 yd ³) GDX Bucket	12 700 (28,000)	41.1 (6.0)	12 800 (28,200)	41.4 (6.0)	13 000 (28,700)	35.1 (5.1)	13 200 (29,100)	30.5 (4.4)

All operating weights include a 90% fuel tank with 75 kg (165 lb) operator.

313 Hydraulic Excavator Specifications

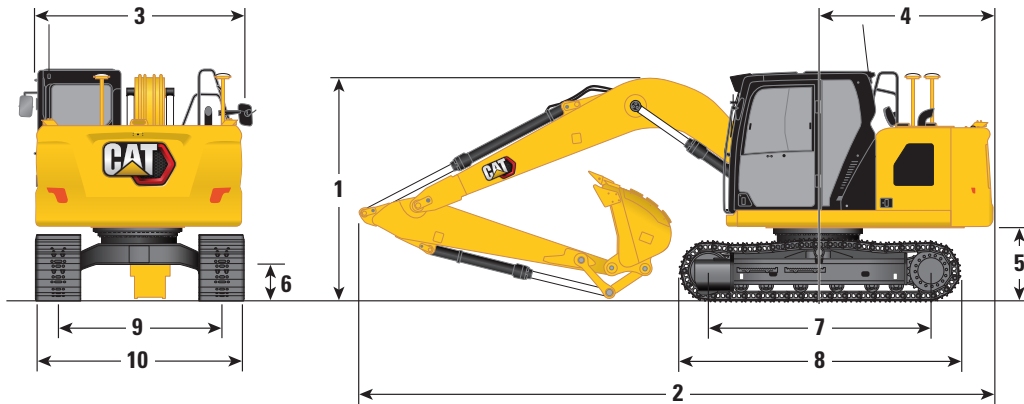
Major Component Weights

	kg	lb
Base Machine Weight: including upper frame, standard undercarriage, counterweight, without boom, stick, bucket, boom cylinders, stick cylinder, bucket cylinders, tracks, blade, without 90% fuel tank, operator		
With 2.14 mt (4,718 lb) Counterweight	8690	19,200
With 2.14 mt (4,718 lb) Counterweight and Blade Compatible	9000	19,800
With 2.47 mt (5,445 lb) Counterweight	9020	19,900
With 2.47 mt (5,445 lb) Counterweight and Blade Compatible	9330	20,600
Track Shoes:		
500 mm (20") Triple Grouser Track Shoes	1440	3,170
500 mm (20") Rubber Track Shoes	1560	3,400
600 mm (24") Triple Grouser Track Shoes	1690	3,730
700 mm (28") Triple Grouser Track Shoes with Additional Steps	1890	4,170
Two Boom Cylinders	240	530
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	270	600
Blades (without lines, cylinders, frame modifications):		
2500 mm (8'2") Blade for use with 500 mm (20") Track Shoes	440	970
2600 mm (8'6") Blade for use with 600 mm (24") Track Shoes	490	1,080
2700 mm (8'10") Blade for use with 700 mm (28") Track Shoes	500	1,100
Counterweights:		
2.14 mt (4,718 lb) Counterweight	2140	4,720
2.47 mt (5,445 lb) Counterweight	2470	5,450
Swing Frame	1240	2,730
Undercarriage:		
Base Frame with Standard Track Rollers and One Carrier Rollers	2560	5,640
Base Frame with Standard Track Rollers and One Carrier Rollers (blade compatible)	2850	6,280
Boom (including lines, pins, stick cylinder):		
Reach Boom 4.65 m (15'3")	1030	2,270
Sticks (including lines, pins, bucket cylinder, bucket linkage):		
Reach Stick R2.5 (8'2")	590	1,300
Reach Stick R3.0 (9'10")	650	1,430
Buckets (without linkage, with tips and side cutters):		
0.45 m ³ (0.59 yd ³) GDX Bucket	390	860
0.45 m ³ (0.59 yd ³) HDX Bucket	460	1,010
0.52 m ³ (0.68 yd ³) GDX Bucket	430	950
0.52 m ³ (0.68 yd ³) HDX Bucket	480	1,060
0.57 m ³ (0.74 yd ³) GDX Bucket	440	970
0.63 m ³ (0.82 yd ³) GDX Bucket	460	1,010
0.52 m ³ (0.68 yd ³) HDX Skeleton Bucket	450	990
Two Bucket Pins	20	40
Quick Coupler:		
Pin Grabber Quick Coupler	210	460

313 Hydraulic Excavator Specifications

Dimensions

All dimensions are approximate and may vary depending on bucket selection.



Boom Option

Reach Boom
4.65 m (15'3")

Stick Options

Reach Stick

R2.5 (8'2")

R3.0 (9'10")

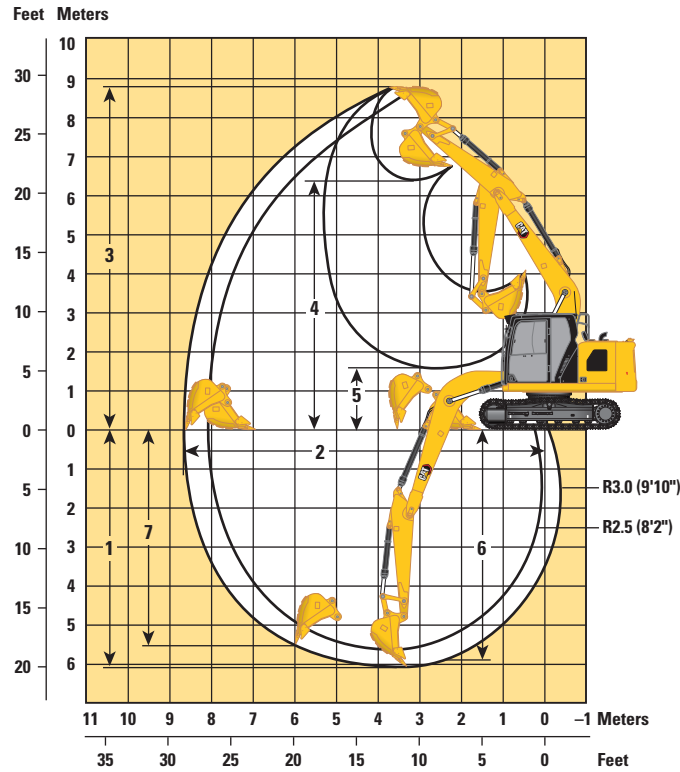
	R2.5 (8'2")		R3.0 (9'10")	
1 Machine Height:*				
Top of Cab Height	2810 mm	9'3"	2810 mm	9'3"
Top of FOGS Height	2950 mm	9'8"	2950 mm	9'8"
Handrail Height	2810 mm	9'3"	2810 mm	9'3"
With Boom/Stick/Bucket Installed (with stick cylinder lines)	2890 mm	9'6"	3190 mm	10'6"
With Boom/Stick Installed (with stick cylinder lines)	2890 mm	9'6"	3190 mm	10'6"
With Boom Installed (with stick cylinder lines)	2370 mm	7'9"	2370 mm	7'9"
2 Machine Length (without blade):				
With Boom/Stick/Bucket Installed (with stick cylinder lines)	7690 mm	25'3"	7780 mm	25'6"
With Boom/Stick Installed (with stick cylinder lines)	7690 mm	25'3"	7780 mm	25'6"
With Boom Installed (with stick cylinder lines)	6890 mm	22'7"	6890 mm	22'7"
Machine Length (with blade, blade rear):				
With Boom/Stick/Bucket Installed (with stick cylinder lines)	7960 mm	26'1"	8050 mm	26'5"
With Boom/Stick Installed (with stick cylinder lines)	7960 mm	26'1"	8050 mm	26'5"
With Boom Installed (with stick cylinder lines)	7170 mm	23'6"	7100 mm	23'4"
3 Upperframe Width	2480 mm	8'2"	2480 mm	8'2"
4 Tail Swing Radius:				
2.14 mt (4,718 lb) Counterweight	2190 mm	7'2"	2190 mm	7'2"
2.47 mt (5,445 lb) Counterweight	2190 mm	7'2"	2190 mm	7'2"
5 Counterweight Clearance	915 mm	3'0"	915 mm	3'0"
6 Ground Clearance	445 mm	1'6"	445 mm	1'6"
7 Length to Center of Rollers	2780 mm	9'1"	2780 mm	9'1"
8 Track Length	3490 mm	11'5"	3490 mm	11'5"
9 Track Gauge	1990 mm	6'6"	1990 mm	6'6"
10 Track Width/Undercarriage Width:				
500 mm (20") Shoes	2490 mm	8'2"	2490 mm	8'2"
600 mm (24") Shoes	2590 mm	8'6"	2590 mm	8'6"
700 mm (28") Shoes (with steps)	2690 mm	8'10"	2690 mm	8'10"
Bucket Type	GDG		GDG	
Bucket Capacity	0.52 m ³	0.65 yd ³	0.52 m ³	0.65 yd ³
Bucket Tip Radius	1230 mm	4'0"	1230 mm	4'0"

*For models with rubber track shoes add 40 mm (1.6") to machine height dimensions.

313 Hydraulic Excavator Specifications

Working Ranges and Forces

All dimensions are approximate and may vary depending on bucket selection.



Boom Option

Reach Boom
4.65 m (15'3")

Stick Options

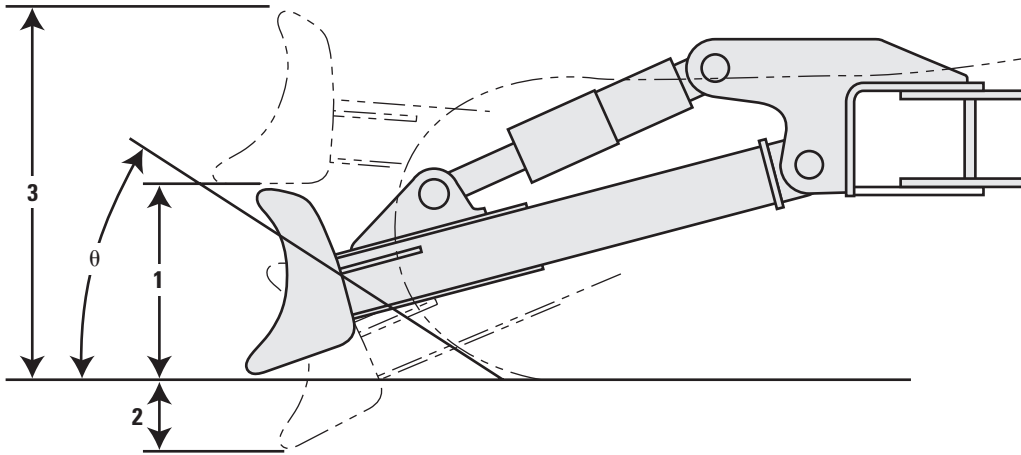
Reach Stick

	R2.5 (8'2")		R3.0 (9'10")	
	mm	ft/in	mm	ft/in
1 Maximum Digging Depth	5540	18'2"	6040	19'10"
2 Maximum Reach at Ground Line	8190	26'10"	8650	28'5"
3 Maximum Cutting Height	8580	28'2"	8860	29'1"
4 Maximum Loading Height	6150	20'2"	6430	21'1"
5 Minimum Loading Height	2090	6'10"	1610	5'3"
6 Maximum Depth Cut for 2440 mm (8'0") Level Bottom	5330	17'6"	5850	19'2"
7 Maximum Vertical Wall Digging Depth	5030	16'6"	5520	18'1"
Minimum Working Equipment Radius	2430	8'0"	2570	8'5"
Bucket Digging Force (ISO)	98.43 kN	22,130 lbf	98.65 kN	22,180 lbf
Stick Digging Force (ISO)	66.51 kN	14,950 lbf	59.17 kN	13,300 lbf
Bucket Type	GDx		GDx	
Bucket Capacity	0.52 m ³	0.65 yd ³	0.52 m ³	0.65 yd ³
Bucket Tip Radius	1230 mm	4'0"	1230 mm	4'0"

313 Hydraulic Excavator Specifications

Blade Working Ranges

All dimensions are approximate and may vary depending on bucket selection.



Blade Options	2500 mm (8'2")		2600 mm (8'6")		2700 mm (8'10")	
	1 Blade Height	616 mm	2'0"	616 mm	2'0"	616 mm
2 Maximum Lowering Depth from Ground	550 mm	1'10"	550 mm	1'10"	550 mm	1'10"
3 Maximum Raising Height above Ground	1018 mm	3'4"	1018 mm	3'4"	1018 mm	3'4"
θ Approach Angle	23°		23°		23°	

313 Hydraulic Excavator Specifications

Bucket Specifications and Compatibility

	Linkage	Width		Capacity		Weight		Fill %	2.14 mt (4,718 lb) Counterweight		2.47 mt (5,445 lb) Counterweight	
		mm	in	m ³	yd ³	kg	lb		Reach Boom			
									R2.5 (8'2")	R3.0 (9'10")	R2.5 (8'2")	R3.0 (9'10")
Pin-On (No Quick Coupler)												
General Duty Excavation	312	800	32	0.45	0.59	383	845	100	●	●	●	●
	312	900	35	0.52	0.68	409	903	100	●	●	●	●
	312	950	37	0.57	0.75	427	942	100	●	⊙	●	●
	312	1000	39	0.63	0.82	448	989	100	⊙	⊖	●	⊙
Heavy Duty Excavation	312	800	32	0.45	0.59	439	967	100	●	●	●	●
	312	900	35	0.52	0.68	467	1,029	100	●	⊙	●	●
Heavy Duty Excavation (Skeleton)	312	900	35.4	0.52	0.68	446	983	100	●	●	●	●
Tamping	312	1800	71	0.29	0.38	436	962	100	●	●	●	●
	312	1800	71	0.52	0.68	453	998	100	●	●	●	●
								kg	1700	1500	1840	1630
Maximum load pin-on (payload + bucket)								lb	3,744	3,310	4,049	3,592
With Cat Pin Grabber Coupler												
General Duty Excavation	312	800	32	0.45	0.59	383	845	100	●	●	●	●
	312	900	35	0.52	0.68	409	903	100	●	⊙	●	⊙
	312	950	37	0.57	0.75	427	942	100	⊙	⊖	●	⊙
	312	1000	39	0.63	0.82	448	989	100	⊖	○	⊙	⊖
Heavy Duty Excavation	312	800	32	0.45	0.59	439	967	100	●	⊙	●	●
	312	900	35	0.52	0.68	467	1,029	100	⊙	⊖	●	⊙
Heavy Duty Excavation (Skeleton)	312	900	35.4	0.52	0.68	446	983	100	●	⊖	●	⊙
Tamping	312	1800	71	0.29	0.38	436	962	100	●	●	●	●
	312	1800	71	0.52	0.68	453	998	100	●	⊖	●	⊙
								kg	1498	1301	1637	1430
Maximum load with coupler (payload + bucket)								lb	3,303	2,869	3,609	3,152

The above loads are in compliance with hydraulic excavator standard EN474-5:2006 + A3:2013, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity with front linkage fully extended at ground line with bucket curled. Capacity based on ISO 7451:2007.

Maximum Material Density:

- 2100 kg/m³ (3,500 lb/yd³)
- ⊙ 1800 kg/m³ (3,000 lb/yd³)
- ⊖ 1500 kg/m³ (2,500 lb/yd³)
- 1200 kg/m³ (2,000 lb/yd³)

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.

313 Hydraulic Excavator Specifications

Attachments Offering Guide

Not all Attachments are available in all regions. Consult your Cat dealer for configurations available in your region.

Match

PIN-ON ATTACHMENTS

Counterweight		2.14 mt (4,718 lb)		2.47 mt (5,445 lb)	
Boom Type		Reach			
Stick Length		R2.5 (8'2")	R3.0 (9'10")	R2.5 (8'2")	R3.0 (9'10")
Hydraulic Hammers	H110 GC Side Mount	✓	✓	✓	✓
	H110 S	✓	✓	✓	✓
	H115 S	✓	✓	✓	✓

CAT PIN GRABBER COUPLER ATTACHMENTS

Counterweight		2.14 mt (4,718 lb)		2.47 mt (5,445 lb)	
Boom Type		Reach			
Stick Length		R2.5 (8'2")	R3.0 (9'10")	R2.5 (8'2")	R3.0 (9'10")
Hydraulic Hammers	H110 GC Side Mount	✓	✓	✓	✓
	H110 S	✓	✓	✓	✓
	H115 S	✓	✓	✓	✓

313 Standard and Optional Equipment

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
BOOMS, STICKS AND LINKAGES			ELECTRICAL SYSTEM		
4.65 m (15'3") Reach boom	✓		Maintenance free battery	✓	
2.5 m (8'2") Reach stick	✓		Centralized electrical disconnect switch	✓	
3.0 m (9'10") Reach stick		✓	LED chassis light, left-side/right-side boom light, cab lights	✓	
Bucket linkage, without lifting eye, Cat Grade	✓		Programmable time-delay LED working lights	✓	
Bucket linkage, with lifting hook for shovel crane, Cat Grade		✓	360° lighting		✓
CAT TECHNOLOGY			ENGINE		
Cat Product Link™	✓		Three selectable modes: Power, Smart, Eco	✓	
Remote Flash	✓		One-touch low idle with automatic engine speed control	✓	
Remote Troubleshoot	✓		Auto engine shutdown	✓	
Cat Grade Connectivity		✓	52° C (125° F) high-ambient cooling capacity without derate	✓	
Compatibility with radios and base stations from Trimble, Topcon, and Leica	✓		-18° C (-0° F) cold start capability		✓
Capability to install 3D grade systems from Trimble, Topcon, and Leica	✓		-25° C (-13° F) cold start capability		✓
Cat Grade with 2D and offset memory	✓		Variable speed fan	✓	
Cat Grade with Advanced 2D		✓	Single fuel filtration system	✓	
Cat Grade with 3D single GNSS		✓	Sealed double element air filter with integrated pre-cleaner	✓	
Cat Grade with 3D dual GNSS		✓	HYDRAULIC SYSTEM		
Cat Assist:	✓		Boom and stick regeneration circuits	✓	
– Boom Assist			Automatic hydraulic oil warm up	✓	
– Bucket Assist			Automatic two-speed travel	✓	
– Swing Assist			Electric main control valve	✓	
– Grade Assist			Boom and stick drift reduction valve	✓	
Cat Payload:	✓		Swing drive	✓	
– Static weigh			Auxiliary line support	✓	
– Semiautomatic calibration			Boom and stick lowering check valves		✓
– Payload/cycle information			Medium-pressure line		✓
– USB reporting capability			High-pressure line		✓
2D E-Fence:	✓		Quick coupler line		✓
– E-ceiling					
– E-floor					
– E-swing					
– E-wall					
– E-cab avoidance					
Auto hammer stop	✓				
Work tool recognition	✓				
Work tool tracking*	✓				

(continued on next page)

*Requires PL161 attachment locator on work tool and Bluetooth® receiver on machine.

Standard and Optional Equipment *(continued)*

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

	Standard	Optional		Standard	Optional
SAFETY AND SECURITY			UNDERCARRIAGE AND STRUCTURES		
Cat Detect – People detection		✓	Grease lubricated track link	✓	
Rear and right-side-view cameras		✓	Center track guiding guards		✓
360° visibility		✓	Bottom guards	✓	
Ground level engine shutoff switch	✓		Travel motor guards	✓	
Service platform with anti-skid plate and countersunk bolts	✓		Swivel guard		✓
Signaling/warning horn	✓		500 mm (20") triple grouser track shoes	✓	
Swing alarm		✓	500 mm (20") rubber track shoes		✓
Hydraulic lock out lever	✓		600 mm (24") triple grouser track shoes		✓
Inspection lighting		✓	700 mm (28") triple grouser track shoes		✓
Cat Command remote control		✓	2500 mm (8'2") blade		✓
SERVICE AND MAINTENANCE			2600 mm (8'6") blade		✓
Side entry to service platform	✓		2700 mm (8'10") blade		✓
Grouped engine oil and fuel filters	✓		2.14 mt (4,718 lb) counterweight	✓	
Ground level engine oil dipstick	✓		2.47 mt (5,445 lb) counterweight		✓
Scheduled Oil Sampling (S·O·S SM) ports	✓		ISO 15818 Tie-down points on base frame	✓	
Integrated vehicle health management system		✓			

Dealer Installed Kits and Attachments

Attachments may vary. Consult your Cat dealer for details.

- | | | |
|--|--|---|
| CAB <ul style="list-style-type: none">• Radial lower wiper• Left-hand and right-hand electrical pedal (two-way) for tool control• Dual exit rear window kit• Rain protector plus cab light cover• Polycarbonate roof hatch (for comfort cab only)• Front windshield laminated glass (P5A glass, EU demolition regulation)• Key fob (for use with Bluetooth® receiver) | GUARDS <ul style="list-style-type: none">• FOGS (not compatible with cab light cover, rain protector)• Mesh guard full front (not compatible with cab light cover, rain protector)• Mesh guard lower half front• Full protecting vandalism guard | SAFETY AND SECURITY <ul style="list-style-type: none">• 76 mm (3") retractable seat belt |
|--|--|---|

Cab Options

	Comfort	Deluxe
ROPS	●	●
High-resolution 203 mm (8") LCD touchscreen monitor*	●	X
High-resolution 254 mm (10") LCD touchscreen monitor**	○	●
Auto bi-level air conditioner	●	●
Jog dial and shortcut keys for monitor control	●	●
Keyless push-to-start engine control	●	●
Height-adjustable console	X	●
Height-adjustable console, three steps with tool	●	X
Tilt-up left-side console	X	●
Fixed left-side console	●	X
Mechanical-suspension seat	●	X
Heated air-suspension seat	X	●
51 mm (2") seat belt	●	●
Monitor integrated Bluetooth radio with USB/Aux ports	●	●
12V DC outlets	●	●
Document storage	●	●
Overhead storage and rear storage with nets	X	●
Beverage holder	●	●
Cup holder	●	●
Openable two-piece front window	●	●
Rear window emergency exit	●	●
Radial wiper with washer	●	●
Openable polycarbonate skylight hatch	X	●
Openable steel hatch	●	X
LED dome light	●	●
Roof sunscreen	X	●
Roller front sunscreen	●	●
Roller rear sunscreen	○	○
Washable floor mat	●	●
Beacon ready	●	●
Cat Stick Steer	○	○

● Standard

○ Optional

X Not Available

* Not compatible with 360° visibility

** For use with 360° visibility

313 Environmental Declaration

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit <https://www.caterpillar.com/en/company/sustainability>.

Engine

- The Cat® C3.6 engine meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
- Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:
 - ✓ 20% biodiesel FAME (fatty acid methyl ester)*
 - ✓ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels
 Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

*Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel.

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 0.85 kg (1.9 lb) of refrigerant which has a CO₂ equivalent of 1.216 metric tonnes (1.340 tons).

Paint

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
 - Barium < 0.01%
 - Cadmium < 0.01%
 - Chromium < 0.01%
 - Lead < 0.01%

Sound Performance

ISO 6395 (external)	100 dB(A)
ISO 6396 (inside cab)	68 dB(A)

- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.
- 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 a noisy environment.

Oils and Fluids

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat Bio HYDO™ Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present, please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

Features and Technology

- The 313 is up to 10% more fuel efficient than the 313F. The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
 - Advanced hydraulic system balances power and efficiency
 - Smart mode matches machine power to digging requirements automatically
 - Eco mode minimizes fuel consumption for light applications
 - One-touch low idle with automatic engine speed control
 - Cat Grade with 2D improves operator efficiency by up to 45%
 - Cut maintenance costs up to 25% with extended and synchronized intervals
 - Remote Flash and Remote Troubleshoot

Recycling

- The materials included in machines are categorized as below with approximate weight percentage. Because of variations of product configurations, the following values in the table may vary.

Material Type	Weight Percentage
Steel	80.28%
Iron	4.22%
Nonferrous Metal	2.85%
Mixed Metal	0.34%
Mixed-Metal and Nonmetal	2.73%
Plastic	0.08%
Rubber	4.25%
Mixed Nonmetallic	1.05%
Fluid	2.79%
Other	1.41%
Uncategorized	0.00%
Total	100%

- A machine with higher recyclability rate will ensure more efficient usage of valuable natural resources and enhance End-of-Life value of the product. According to ISO 16714 (Earthmoving machinery – Recyclability and recoverability – Terminology and calculation method), recyclability rate is defined as percentage by mass (mass fraction in percent) of the new machine potentially able to be recycled, reused or both.

All parts in the bill of material are first evaluated by component type based on a list of components defined by the ISO 16714 and Japan CEMA (Construction Equipment Manufacturers Association) standards. Remaining parts are further evaluated for recyclability based on material type.

Because of variations of product configurations, the following value in the table may vary.

Recyclability – 95%



313

Forestry Hydraulic Excavator

The Cat® 313 Forestry excavator is specially modified for the tough terrain of forestry applications. The machine features a tool control system to maximize the forestry work tools, as well as a specially designed boom and stick for forestry. Count on the versatility of the 313 to perform the tasks you need for forestry operations.

Machine Modifications to meet Tough Terrain

- One-Piece boom and 2.5 m (8'2") stick designed for forestry.
- Additional mesh screen and covers prevent entry of dry, dead debris.
- Optional single grouser 500 mm (20") shoe for improved traction on slopes.
- Special tool tray located in front of the cab structure.
- Mounting points for fire extinguisher are offered from factory.
- Safety features such as rear and right-hand side cameras and optional 360° Visibility.
- Heavy duty bottom guard with openable gate under engine portion for cleaning.
- Tool control system for forestry to maximize harvester and grapple performance.

313 Hydraulic Excavator – Forestry Specifications

Engine

Engine Model	Cat C3.6	
Net Power		
ISO 9249	80.9 kW	108 hp
ISO 9249 (DIN)	110 hp (metric)	
Engine Power		
ISO 14396	82 kW	110 hp
ISO 14396 (DIN)	111 hp (metric)	
Bore	98 mm	4 in
Stroke	120 mm	5 in
Displacement	3.6 L	220 in ³
Biodiesel Capability	Up to B20 ⁽¹⁾	

- Meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
- No engine power derating required below 3000 m (9,840 ft) altitude.
- Advertised power is tested per the specified standard in effect at the time of manufacture.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air intake system, exhaust system and alternator.
- Engine speed at 2,400 rpm.

⁽¹⁾Cat diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:

- ✓ 20% biodiesel FAME (fatty acid methyl ester)*
- ✓ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels

Refer to guidelines for successful application. Please consult your Cat dealer or “Caterpillar Machine Fluids Recommendations” (SEBU6250) for details.

*Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel.

Swing Mechanism

Swing Speed	11.5 rpm	
Maximum Swing Torque	35 kN·m	25,741 lbf-ft

Weights

Operating Weight – Forest Harvester 13 400 kg 29,500 lb

- Standard undercarriage, Reach boom, R2.5 (8'2") stick, GDX 0.52 m³ (0.68 yd³) bucket, 500 mm (20") triple grouser shoes and 2.47 mt (5,445 lb) counterweight.

Operating Weight – Forest Grapple 13 500 kg 29,800 lb

- Standard undercarriage, Reach boom, R2.5 (8'2") stick, GDX 0.52 m³ (0.68 yd³) bucket, 500 mm (20") triple grouser shoes and 2.47 mt (5,445 lb) counterweight.

Track

Standard Track Shoes Width	500 mm	20 in
Optional Track Shoes Width	600 mm	24 in
Optional Track Shoes Width	700 mm	28 in
Number of Shoes (each side)	43	
Number of Track Rollers (each side)	6	
Number of Carrier Rollers (each side)	1	

Drive

Gradeability	35°/70%	
Maximum Travel Speed	5.4 km/h	3.4 mph
Maximum Drawbar Pull	117 kN	26,303 lbf

Hydraulic System

Main System – Maximum Flow (implement)	247 L/min (1 pump)	65 gal/min (1 pump)
Maximum Pressure – Equipment – Normal	35 000 kPa	5,075 psi
Maximum Pressure – Travel	35 000 kPa	5,075 psi
Maximum Pressure – Swing	26 000 kPa	3,770 psi
Boom Cylinder – Bore	105 mm	4 in
Boom Cylinder – Stroke	1026 mm	40 in
Stick Cylinder – Bore	115 mm	5 in
Stick Cylinder – Stroke	1147 mm	45 in
Bucket Cylinder – Bore	95 mm	4 in
Bucket Cylinder – Stroke	939 mm	37 in

Service Refill Capacities

Fuel Tank Capacity	258 L	68.2 gal
Cooling System	15 L	4 gal
Engine Oil	8 L	2.1 gal
Final Drive (each)	3 L	0.8 gal
Hydraulic System (including tank)	85 L	22.5 gal
Hydraulic Tank	70 L	18.5 gal
DEF Tank	21 L	5.6 gal

Standards

Brakes	ISO 10265:2008
Cab/ROPS	ISO 12117-2:2008
Cab/FOGS	ISO 10262:1998

Sound Performance

ISO 6395 (external)	100 dB(A)
ISO 6396 (inside cab)	68 dB(A)

- When properly installed and maintained, the cab offered by Caterpillar, when tested with doors and windows closed according to ANSI/SAE J1166 OCT98, meets OSHA and MSHA requirements for operator sound exposure limits in effect at time of manufacture.
- 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 a noisy environment.

313 Hydraulic Excavator – Forestry Specifications

Weights and Ground Pressures

	500 mm (20") Single Grouser Shoes		500 mm (20") Triple Grouser Shoes		600 mm (24") Triple Grouser Shoes		700 mm (28") Triple Grouser Shoes	
	Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure
	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)
Base Machine Configurations								
Base Frame with Track Rollers and Carrier Rollers								
2.47 mt (5,445 lb) Counterweight + Standard Undercarriage Base Machine for Harvester								
Reach Boom + R2.5 (8'2") Stick + 0.52 m ³ (0.68 yd ³) GDX Bucket	13 700 (30,200)	44.3 (6.4)	13 400 (29,500)	43.4 (6.3)	13 700 (30,200)	36.9 (5.4)	13 900 (30,600)	32.1 (4.7)
Reach Boom + R2.5 (8'2") Stick + 0.52 m ³ (0.68 yd ³) GDX Bucket + Blade	14 100 (31,100)	45.6 (6.6)	13 900 (30,600)	45.0 (6.5)	14 200 (31,300)	38.3 (5.6)	14 400 (31,700)	33.3 (4.8)
2.47 mt (5,445 lb) Counterweight + Standard Undercarriage Base Machine for Grapple								
Reach Boom + R2.5 (8'2") Stick + 0.52 m ³ (0.68 yd ³) GDX Bucket	13 800 (30,400)	44.7 (6.5)	13 500 (29,800)	43.7 (6.3)	13 700 (30,200)	36.9 (5.4)	13 900 (30,600)	32.1 (4.7)
Reach Boom + R2.5 (8'2") Stick + 0.52 m ³ (0.68 yd ³) GDX Bucket + Blade	14 200 (31,300)	46.0 (6.7)	13 900 (30,600)	45.0 (6.5)	14 200 (31,300)	38.3 (5.6)	14 400 (31,700)	33.3 (4.8)

All operating weights include a 90% fuel tank with 75 kg (165 lb) operator.

313 Hydraulic Excavator – Forestry Specifications

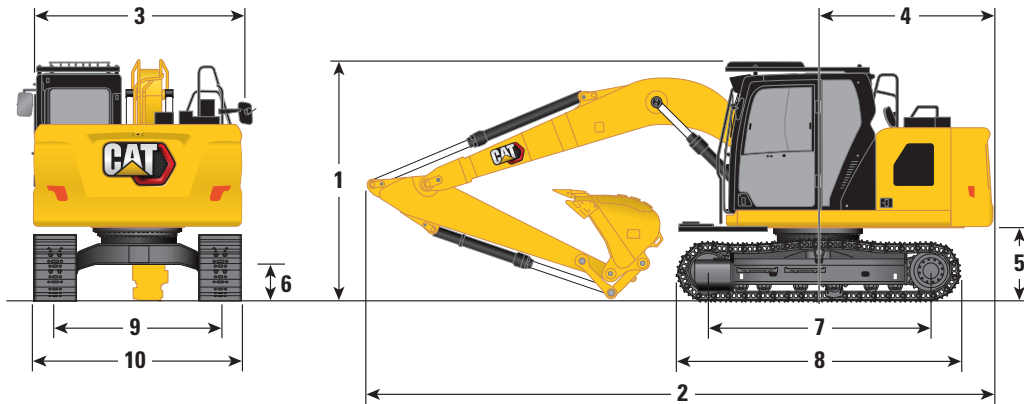
Major Component Weights

	kg	lb
Base Machine Weight: including upper frame, standard undercarriage, counterweight, without boom, stick, bucket, boom cylinders, stick cylinder, bucket cylinders, tracks, blade, without 90% fuel tank, operator, FOGS		
With Standard Undercarriage	9420	20,760
With Standard Undercarriage (Blade Compatible)	9390	20,700
Track Shoes:		
500 mm (20") Single Grouser Track Shoes	1720	3,800
500 mm (20") Triple Grouser Track Shoes	1440	3,170
600 mm (24") Triple Grouser Track Shoes	1690	3,730
700 mm (28") Triple Grouser Track Shoes with Additional Steps	1890	4,160
Two Boom Cylinders	240	530
Upper Structure (without counterweight, frame, 90% fuel tank, operator)	2880	6,340
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	270	600
Blades (without lines, cylinders, frame modifications):		
2500 mm (8'2") Blade for use with 500 mm (20") Track Shoes	440	960
2600 mm (8'6") Blade for use with 600 mm (24") Track Shoes	490	1,080
2700 mm (8'10") Blade for use with 700 mm (28") Track Shoes	500	1,110
Counterweight:		
2.47 mt (5,445 lb) Counterweight	2470	5,450
Swing Frame	1240	2,730
Undercarriage:		
Base Frame with Standard Track Rollers and One Carrier Roller for Standard Undercarriage	2560	5,640
Base Frame with Standard Track Rollers and One Carrier Roller for Standard Undercarriage (blade compatible)	2850	6,280
Booms (including lines, pins, stick cylinder):		
Reach Boom 4.65 (15'3") for Harvester	890	1,960
Reach Boom 4.65 (15'3") for Grapple	920	2,030
Sticks (including lines, pins, bucket cylinder, bucket linkage):		
Reach Stick R2.5 (8'2") for Harvester	620	1,360
Reach Stick R2.5 (8'2") for Grapple	630	1,380
Buckets (without linkage, with tips and side cutters):		
0.52 m ³ (0.68 yd ³) GDX Bucket	430	940
0.52 m ³ (0.68 yd ³) HDX Bucket	480	1,060
Two Bucket Pins	20	50
Guard		
FOGS	120	270

313 Hydraulic Excavator – Forestry Specifications

Dimensions

All dimensions are approximate and may vary depending on bucket selection.



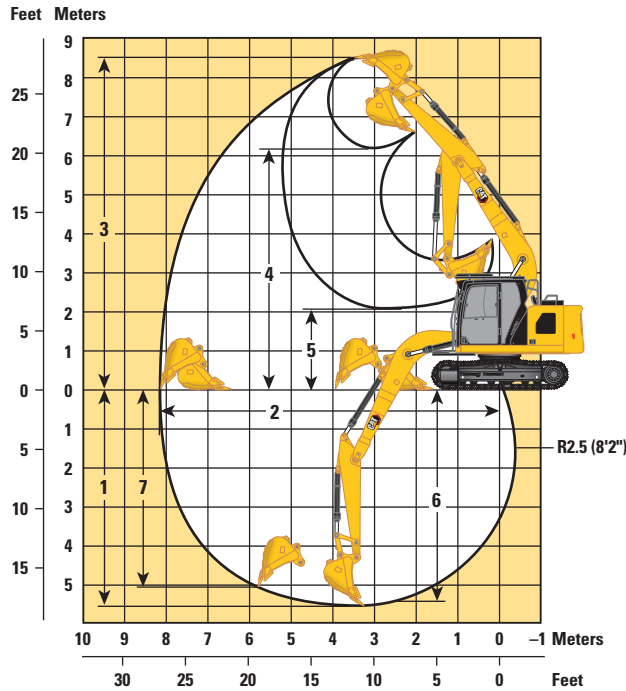
Boom Option	Reach Boom 4.65 m (15'3")	
Stick Option	Reach Stick R2.5 (8'2") for Forestry	
1 Machine Height (with triple grouser track shoes):*		
Top of Cab Height	2810 mm	9'3"
Top of FOGS Height	2950 mm	9'8"
Handrail Height	2810 mm	9'3"
With Boom/Stick/Bucket Installed (with stick cylinder lines)	2890 mm	9'6"
With Boom/Stick Installed (with stick cylinder lines)	2890 mm	9'6"
With Boom Installed (with stick cylinder lines)	2370 mm	7'9"
2 Machine Length (without blade):		
With Boom/Stick/Bucket Installed (with stick cylinder lines)	7690 mm	25'3"
With Boom/Stick Installed (with stick cylinder lines)	7690 mm	25'3"
With Boom Installed (with stick cylinder lines)	6890 mm	22'7"
Machine Length (with blade, blade rear):		
With Boom/Stick/Bucket Installed (with stick cylinder lines)	7960 mm	26'1"
With Boom/Stick Installed (with stick cylinder lines)	7960 mm	26'1"
With Boom Installed (with stick cylinder lines)	7100 mm	23'4"
3 Upperframe Width	2480 mm	8'2"
4 Tail Swing Radius:		
2.47 mt (5,445 lb) Counterweight	2190 mm	7'2"
5 Counterweight Clearance	915 mm	3'0"
6 Ground Clearance	445 mm	1'6"
7 Length to Center of Rollers	2780 mm	9'1"
8 Track Length	3490 mm	11'5"
9 Track Gauge	1990 mm	6'6"
10 Track Width/Undercarriage Width:		
500 mm (20") Shoes	2490 mm	8'2"
600 mm (24") Shoes	2590 mm	8'6"
700 mm (28") Shoes (with steps)	2690 mm	8'10"
Bucket Type	GDX	
Bucket Capacity	0.52 m ³	0.65 yd ³
Bucket Tip Radius	1230 mm	4'0"

*For models with single grouser track shoes add 30 mm (1.2") to machine height dimensions.

313 Hydraulic Excavator – Forestry Specifications

Working Ranges and Forces

All dimensions are approximate and may vary depending on bucket selection.

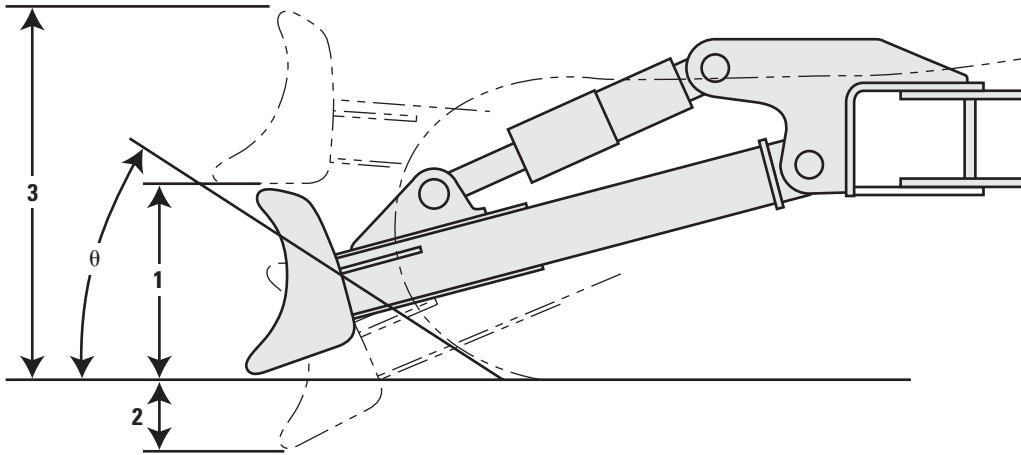


Boom Option	Reach Boom 4.65 m (15'3")	
Stick Option	Reach Stick R2.5 (8'2") for Forestry	
1 Maximum Digging Depth	5540 mm	18'2"
2 Maximum Reach at Ground Line	8190 mm	26'10"
3 Maximum Cutting Height	8580 mm	28'2"
4 Maximum Loading Height	6150 mm	20'2"
5 Minimum Loading Height	2090 mm	6'10"
6 Maximum Depth Cut for 2440 mm (8'0") Level Bottom	5330 mm	17'6"
7 Maximum Vertical Wall Digging Depth	5030 mm	16'6"
Minimum Working Equipment Radius	2430 mm	8'0"
Bucket Digging Force (ISO)	98.43 kN	22,130 lbf
Stick Digging Force (ISO)	66.51 kN	14,950 lbf
Bucket Type	GDX	
Bucket Capacity	0.52 m ³	0.65 yd ³
Bucket Tip Radius	1230 mm	4'0"

313 Hydraulic Excavator – Forestry Specifications

Blade Working Ranges

All dimensions are approximate and may vary depending on bucket selection.



Blade Options	2500 mm (8'2")		2600 mm (8'6")		2700 mm (8'10")	
	1 Blade Height	616 mm	2'0"	616 mm	2'0"	616 mm
2 Maximum Lowering Depth from Ground	550 mm	1'10"	550 mm	1'10"	550 mm	1'10"
3 Maximum Raising Height above Ground	1018 mm	3'4"	1018 mm	3'4"	1018 mm	3'4"
θ Approach Angle	23°		23°		23°	

313 Forestry Standard and Optional Equipment

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
BOOMS, STICKS AND LINKAGES			CAT TECHNOLOGY		
4.65 m (15'3") Reach boom		✓	Cat Product Link™	✓	
2.5 m (8'2") Reach stick		✓	Remote Flash	✓	
Bucket linkage, without lifting eye ⁽¹⁾	✓		Remote Troubleshoot	✓	
CAB			Auto hammer stop	✓	
ROPS	✓		Work tool recognition	✓	
High-resolution 203 mm (8") LCD touchscreen monitor*	✓		Work tool tracking***	✓	
High-resolution 254 mm (10") LCD touchscreen monitor**		✓	ELECTRICAL SYSTEM		
Auto bi-level air conditioner	✓		Maintenance free battery	✓	
Jog dial and shortcut keys for monitor control	✓		Centralized electrical disconnect switch	✓	
Keyless push-to-start engine control	✓		LED chassis light, left-side/right-side boom light, cab lights	✓	
Height-adjustable console, three steps with tool	✓		Programmable time-delay LED working lights	✓	
Fixed left-side console	✓		ENGINE		
Mechanical-suspension seat	✓		Cat C3.6 single turbo diesel engine	✓	
51 mm (2") seat belt	✓		Three selectable modes: Power, Smart, Eco	✓	
Monitor integrated Bluetooth® radio with USB/Aux ports	✓		One-touch low idle with automatic engine speed control	✓	
12V DC outlets	✓		Auto engine shutdown	✓	
Document storage	✓		52° C (125° F) high-ambient cooling capacity without derate	✓	
Beverage holder	✓		-25° C (-13° F) cold start capability	✓	
Cup holder	✓		Variable speed fan	✓	
Openable two-piece front window	✓		Single fuel filtration system	✓	
Rear window emergency exit	✓		Sealed double element air filter with integrated pre-cleaner	✓	
Radial wiper with washer	✓		HYDRAULIC SYSTEM		
Openable steel hatch	✓		Boom and stick regeneration circuits	✓	
LED dome light	✓		Automatic hydraulic oil warm up	✓	
Roller front sunscreen	✓		Automatic two-speed travel	✓	
Washable floor mat	✓		Electric main control valve	✓	
Beacon ready	✓		Boom and stick drift reduction valve	✓	
Cat Stick Steer		✓	Swing drive	✓	
Auxiliary relay		✓	High-pressure line	✓	
			Medium-pressure line ⁽²⁾		✓
			Medium-pressure line and drain line		✓

(continued on next page)

*Not compatible with 360° visibility

**For use with 360° visibility

***Requires PL161 attachment locator on work tool and Bluetooth receiver on machine.

⁽¹⁾ Optional for Harvester.

⁽²⁾ For Grapple only.

313 Forestry Standard and Optional Equipment

Standard and Optional Equipment *(continued)*

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

	Standard	Optional		Standard	Optional
SAFETY AND SECURITY			UNDERCARRIAGE AND STRUCTURES		
Cat Detect – People detection		✓	Standard undercarriage	✓	
Rearview and right-hand-sideview cameras		✓	500 mm (20") single grouser track shoes		✓
360° visibility for FOGS		✓	500 mm (20") triple grouser track shoes		✓
Ground-level engine shutoff switch	✓		600 mm (24") triple grouser track shoes		✓
Service platform with anti-skid plate and countersunk bolts	✓		700 mm (28") triple grouser track shoes		✓
Signaling/warning horn	✓		Grease lubricated track link	✓	
Swing alarm		✓	2500 mm (8'2") blade		✓
Hydraulic lock out lever	✓		2600 mm (8'6") blade		✓
FOGS (not compatible with cab light cover, rain protector)	✓		2700 mm (8'10") blade		✓
Inspection lighting		✓	Center track guiding guards		✓
SERVICE AND MAINTENANCE			HD travel motor guards	✓	
Side entry to service platform	✓		Swivel guard	✓	
Grouped engine oil and fuel filters	✓		HD bottom guards	✓	
Ground level engine oil dipstick	✓		2.47 mt (5,445 lb) counterweight		✓
S·O·S sampling ports	✓		Tie-down points (ISO 15818 compliant)	✓	
Integrated vehicle health management system		✓			

313 Forestry Attachments

Dealer Installed Kits and Attachments

Attachments may vary. Consult your Cat dealer for details.

CAB

- Radial lower wiper
- Left-hand and right-hand electrical pedal (two-way) for tool control
- Dual exit rear window kit
- Rain protector plus cab light cover
- Polycarbonate roof hatch (for comfort cab only)
- Front windshield laminated glass (P5A glass, EU demolition regulation)
- Key fob (for use with Bluetooth receiver)

SAFETY AND SECURITY

- 76 mm (3") retractable seat belt

GUARDS

- Mesh guard full front (not compatible with cab light cover, rain protector)
- Mesh guard lower half front
- Full protecting vandalism guard

OTHER ATTACHMENTS

- Grease gun holder



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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 in photos may include additional equipment. See your Cat dealer for available options.

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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 machine 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.

AEXQ2876-03 (09-2022)
Replaces AEXQ2876-02
Build Number: 07D
Forestry Build Number: 07D
(Japan)

