



# 352

## Hydraulic Excavator

# Technical Specifications

### Engine

Engine Model	Cat® C13	
Net Power – ISO 9249	316 kW	424 hp
Net Power – SAE J1349	316 kW	424 hp
Gross Power – ISO 14396	317 kW	425 hp
Bore	130 mm	5 in
Stroke	157 mm	6 in
Displacement	12.5 L	763 in <sup>3</sup>

- Meets Japan 2014 (Tier 4 Final) emission standards.
- Recommended for use up to 4500 m (14,764 ft) altitude with engine power derate above 2600 m (8,530 ft).
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator.
- Rating at 1,800 rpm.

### Engine rpm

Operation	1,650 rpm
Travel	1,800 rpm

### Swing Mechanism

Swing Speed	8.44 rpm	
Maximum Swing Torque	187 kN·m	138,000 lbf·ft

### Weights

Operating Weight	50 500 kg	111,333 lb
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- Variable Gauge undercarriage, Reach boom, R3.35 (11'0") TB stick, HD 2.1 m<sup>3</sup> (2.7 yd<sup>3</sup>) bucket, 600 mm (24") double grouser shoes, 9.0 t (19,842 lb) counterweight.

### Track

Track Shoes Width	750 mm	30 in
Track Shoes Width	600 mm	24 in
Number of Shoes (each side)	52	
Number of Track Rollers (each side)	9	
Number of Carrier Rollers (each side)	3	

### Drive

Maximum Gradeability	35°/70%	
Maximum Travel Speed	4.8 km/h	3.0 mph
Maximum Drawbar Pull	335 kN	75,311 lbf

### Hydraulic System

Main System – Maximum Flow – Implement	779 L/min (389 × 2 pumps)	206 gal/min (103 × 2 pumps)
Maximum Pressure – Equipment – Implement	35 000 kPa	5,076 psi
Maximum Pressure – Travel	26 000 kPa	3,771 psi
Maximum Pressure – Swing	35 000 kPa	5,076 psi
Boom Cylinder – Bore	170 mm	7 in
Boom Cylinder – Stroke	1524 mm	60 in
Stick Cylinder – Bore	190 mm	7 in
Stick Cylinder – Stroke	1758 mm	69 in
TB Bucket Cylinder – Bore	160 mm	6 in
TB Bucket Cylinder – Stroke	1356 mm	53 in
UB Bucket Cylinder – Bore	170 mm	7 in
UB Bucket Cylinder – Stroke	1396 mm	55 in



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## Service Refill Capacities

Fuel Tank Capacity	715 L	188.9 gal
Cooling System	52 L	13.7 gal
Engine Oil (with filter)	40 L	10.6 gal
Swing Drive	40 L	10.6 gal
Final Drive (each)	15 L	4.0 gal
Hydraulic System (including tank)	550 L	145.3 gal
Hydraulic Tank (including suction pipe)	217 L	57.3 gal
DEF Tank	46 L	12.2 gal

## Standards

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

## Sound Performance

ISO 6395:2008 (external)	108 dB(A)
ISO 6396:2008 (inside cab)	72 dB(A)

- 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.

## Operating Weights and Ground Pressures

	600 mm (24") Triple Grouser Shoes		600 mm (24") Double Grouser Shoes		750 mm (30") Triple Grouser Shoes	
	Weight	Ground Pressure	Weight	Ground Pressure	Weight	Ground Pressure
	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)	kg (lb)	kPa (psi)
<b>Base Frame with Single Flange Track Rollers and Carrier Rollers</b>						
<b>9.0 t (19,842 lb) Counterweight + Variable Gauge Long Undercarriage Base Machine</b>						
Reach Boom + Reach 3.35 m (11'0") Stick + 2.1 m <sup>3</sup> (2.7 yd <sup>3</sup> ) HD Bucket	50 400 (111,200)	88.9 (12.9)	50 500 (111,300)	89.1 (12.8)	51 100 (112,600)	95.3 (13.8)
<b>Base Frame with Double Flange Track Rollers and Carrier Rollers</b>						
<b>9.0 t (19,842 lb) Counterweight + Variable Gauge Long Undercarriage Base Machine</b>						
Reach Boom + Reach 3.35 m (11'0") Stick + 2.1 m <sup>3</sup> (2.7 yd <sup>3</sup> ) HD Bucket	50 400 (111,200)	89.0 (12.9)	50 500 (111,300)	89.2 (12.9)	51 200 (110,672)	90.4 (13.1)

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

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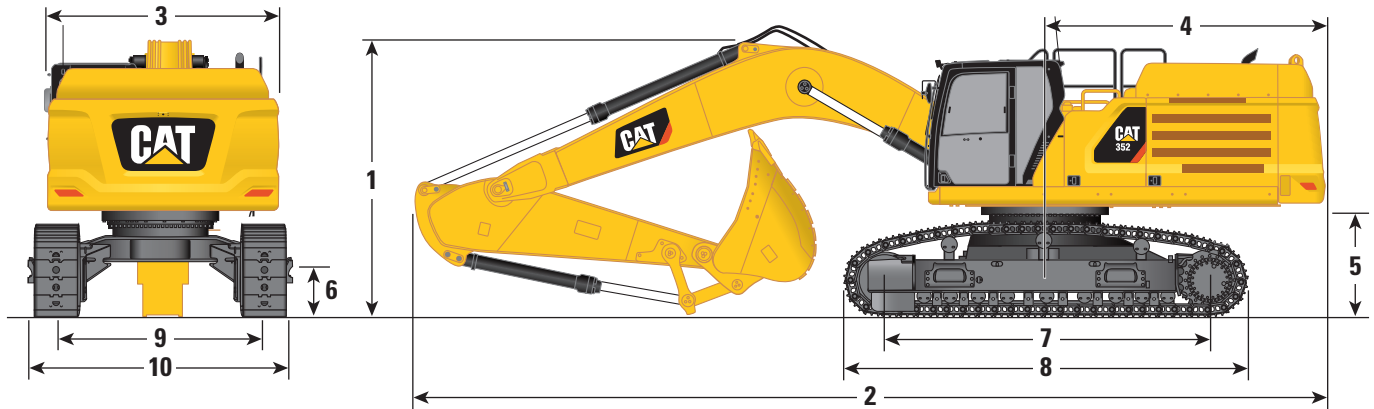
## Major Component Weights

	kg	lb
Base machine with 9.0 t (19,842 lb) counterweight, standard swing frame, base frame with single flange track rollers and carrier rollers	35 110	77,410
Base machine with 9.0 t (19,842 lb) counterweight, standard swing frame, base frame with double flange track rollers and carrier rollers	35 160	77,510
Track Shoes:		
600 mm (24") Width, 15.5 mm (0.6") Thick, Triple Grouser Track Shoes	5290	11,660
600 mm (24") Width, 15.5 mm (0.6") Thick, Double Grouser Track Shoes	5410	11,920
750 mm (30") Width, 15.5 mm (0.6") Thick, Triple Grouser Track Shoes	6040	13,310
Two Boom Cylinders	1760	3,880
Weight of 90% Fuel Tank and 75 kg (165 lb) Operator	630	1,380
Counterweight:		
9.0 t Counterweight	9000	19,842
Swing Frame:		
Standard Swing Frame	4070	8,980
Fixed Gauge and Variable Gauge Long Undercarriages:		
Base Frame with Single Flange Track Rollers and Carrier Rollers	9340	20,580
Base Frame with Double Flange Track Rollers and Carrier Rollers	9380	20,680
Boom (including lines, pins, stick cylinder):		
Reach Boom 6.9 m (22'8")	4410	9,720
Stick (including lines, pins, bucket cylinder, bucket linkage):		
Reach Stick R3.35TB (11'0")	2510	5,540
Buckets (without linkage):		
2.41 m <sup>3</sup> (3.15 yd <sup>3</sup> ) SD for TB	2496	5,502
2.69 m <sup>3</sup> (3.52 yd <sup>3</sup> ) SD for TB	2696	5,943
1.9 m <sup>3</sup> (2.48 yd <sup>3</sup> ) GD for TB	1857	4,094
2.0 m <sup>3</sup> (2.62 yd <sup>3</sup> ) GD for TB	1904	4,197
1.9 m <sup>3</sup> (2.48 yd <sup>3</sup> ) HD for TB	2275	5,015
2.1 m <sup>3</sup> (2.7 yd <sup>3</sup> ) HD for TB	2415	5,324

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## Dimensions

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



**Boom Option**

**Reach Boom  
6.9 m (22'8")**

**Stick Option**

**Reach Stick  
R3.35TB (11'0")**

### 1 Machine Height:

Cab Height	3380 mm	11.1 ft
FOGS Height	3530 mm	11.6 ft
Handrails Height	3530 mm	11.6 ft
With Boom/Stick/Bucket Installed	3710 mm	12.2 ft
With Boom/Stick Installed	3580 mm	11.7 ft
With Boom Installed	3200 mm	10.5 ft
With Boom/Stick/Bucket Installed (with Auxiliary Lines)	3710 mm	12.2 ft
With Boom/Stick Installed (with Auxiliary Lines)	3620 mm	11.9 ft
With Boom Installed (with Auxiliary Lines)	3230 mm	10.6 ft

### 2 Machine Length:

With Boom/Stick/Bucket Installed	11 890 mm	39.0 ft
With Boom/Stick Installed	11 850 mm	38.9 ft
With Boom Installed	10 610 mm	34.8 ft
With Boom/Stick/Bucket Installed (with Auxiliary Lines)	11 890 mm	39.0 ft
With Boom/Stick Installed (with Auxiliary Lines)	11 850 mm	38.9 ft
With Boom Installed (with Auxiliary Lines)	10 610 mm	34.8 ft

### 3 Upperframe Width without Walkways

3020 mm 9.9 ft

### 4 Tail Swing Radius

3760 mm 12.3 ft

Bucket Type

Heavy Duty

Bucket Capacity

2.1 m<sup>3</sup> 2.7 yd<sup>3</sup>

Bucket Tip Radius

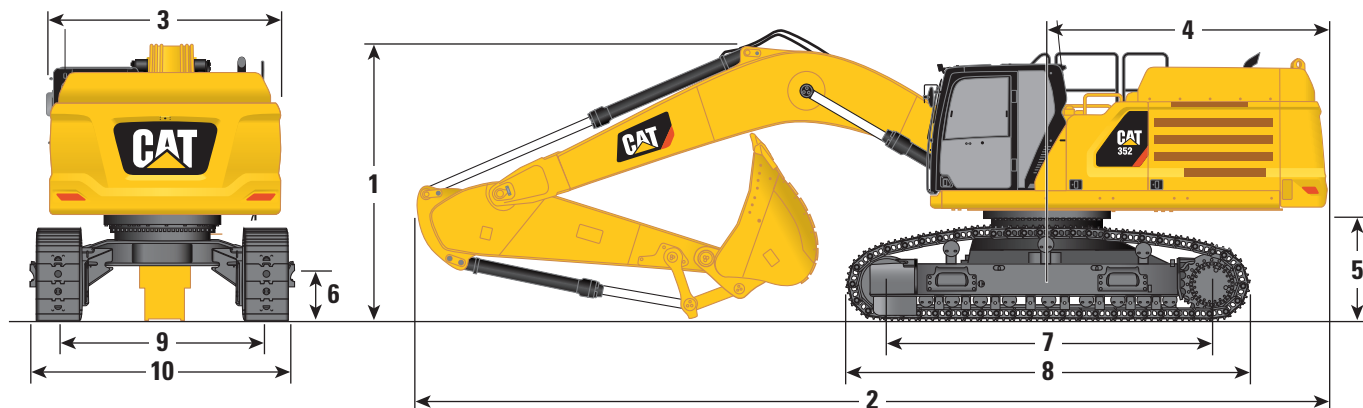
1891 mm 6.2 ft

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# 352 Hydraulic Excavator Specifications

## Dimensions (continued)

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

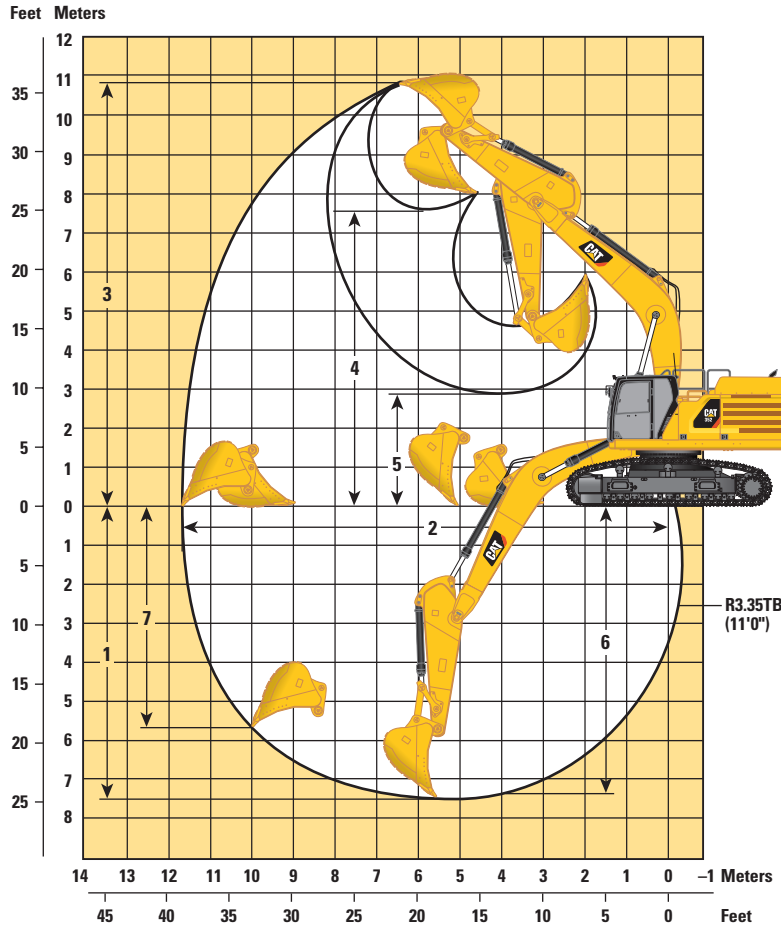


Boom Option	Reach Boom 6.9 m (22'8")	
Stick Option	Reach Stick R3.35TB (11'0")	
<b>5</b> Counterweight Clearance without Shoe Lug	1435 mm	4.7 ft
<b>6</b> Ground Clearance without Shoe Lug	710 mm	2.3 ft
<b>7</b> Length to Center of Rollers	4340 mm	14.2 ft
<b>8</b> Track Length with Triple Grouser Shoes	5350 mm	17.6 ft
<b>9</b> Track Gauge: Variable Gauge Undercarriage		
Retracted	2390 mm	8 ft
Extended	2890 mm	9.5 ft
<b>10</b> Track Width: Variable Gauge Undercarriage Retracted		
600 mm (24") Shoes	2990 mm	9.8 ft
750 mm (30") Shoes	3140 mm	10.3 ft
Track Width: Variable Gauge Undercarriage Extended		
600 mm (24") Shoes	3490 mm	11.5 ft
750 mm (30") Shoes	3640 mm	11.9 ft
Undercarriage Width (with steps/without steps): Variable Gauge Undercarriage Retracted		
600 mm (24") Shoes	3180 mm	10.4 ft
750 mm (30") Shoes	3180 mm	10.4 ft
Undercarriage Width (with steps/without steps): Variable Gauge Undercarriage Extended		
600 mm (24") Shoes	3680 mm	12.1 ft
750 mm (30") Shoes	3680 mm	12.1 ft
Bucket Type	Heavy Duty	
Bucket Capacity	2.1 m <sup>3</sup>	2.7 yd <sup>3</sup>
Bucket Tip Radius	1891 mm	6.2 ft

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## Working Ranges and Forces

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



Boom Option	Reach Boom 6.9 m (22'8")	
Stick Option	Reach Stick R3.35TB (11'0")	
1 Maximum Digging Depth	7510 mm	24.6 ft
2 Maximum Reach at Ground Line	11 710 mm	38.4 ft
3 Maximum Cutting Height	10 970 mm	36.0 ft
4 Maximum Loading Height	7580 mm	24.9 ft
5 Minimum Loading Height	2900 mm	9.5 ft
6 Maximum Depth Cut for 2440 mm (8 ft) Level Bottom	7360 mm	24.1 ft
7 Maximum Vertical Wall Digging Depth	5680 mm	18.6 ft
Bucket Digging Force (SAE)	236 kN	53,050 lbf
Bucket Digging Force (ISO)	268 kN	60,250 lbf
Stick Digging Force (SAE)	193 kN	43,390 lbf
Stick Digging Force (ISO)	199 kN	44,740 lbf
Bucket Type	Heavy Duty	
Bucket Capacity	2.1 m <sup>3</sup>	2.7 yd <sup>3</sup>
Bucket Tip Radius	1891 mm	6.2 ft

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## Bucket Specifications and Compatibility

	Linkage	Width		Capacity		Weight		Fill	Variable Gauge Long Undercarriage		
		mm	in	m <sup>3</sup>	yd <sup>3</sup>	kg	lb		%	9.0 t (19,842 lb) Counterweight	
										Reach Boom 6.9 m (22'8")	
									R3.35 (11'0")		
<b>Pin-On (No Quick Coupler)</b>											
General Duty	TB	1500	59	1.90	2.48	1857	4,094	100	●		
	TB	1600	63	2.00	2.62	1904	4,197	100	●		
Heavy Duty	TB	1550	61	1.90	2.48	2275	5,015	100	●		
	TB	1700	67	2.10	2.75	2415	5,324	100	●		
Severe Duty	TB	1700	67	2.41	3.15	2496	5,502	90	●		
	TB	1850	74	2.69	3.52	2696	5,943	90	⊙		
Maximum load with pin-on (payload + bucket)								kg	7470		
								lb	16,469		
<b>With Cat Pin Grabber Coupler</b>											
General Duty	TB	1500	59	1.90	2.48	1857	4,094	100	●		
	TB	1600	63	2.00	2.62	1904	4,197	100	●		
Heavy Duty	TB	1550	61	1.90	2.48	2275	5,015	100	●		
	TB	1700	67	2.10	2.75	2415	5,324	100	⊙		
Severe Duty	TB	1700	67	2.41	3.15	2496	5,502	90	⊙		
	TB	1850	74	2.69	3.52	2696	5,943	90	⊖		
Maximum load with coupler (payload + bucket)								kg	6416		
								lb	14,145		

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/m<sup>3</sup> (3,500 lb/yd<sup>3</sup>)
- ⊙ 1800 kg/m<sup>3</sup> (3,000 lb/yd<sup>3</sup>)
- ⊖ 1500 kg/m<sup>3</sup> (2,500 lb/yd<sup>3</sup>)

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.

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## Attachments Offering Guide

### PIN-ON ATTACHMENTS

<b>Undercarriage</b>		<b>Variable Gauge Long Undercarriage</b>
<b>Counterweight</b>		<b>9.0 t (19,842 lb)</b>
<b>Boom Type</b>		<b>Reach HD</b>
<b>Stick Length</b>		<b>3.35 m HD (11'0")</b>
Hydraulic Hammers	H160E S	✓
	H180E S	✓
Pulverizers	P235	✓
Mobile Scrap and Demolition Shears	S3050	✓
Cat Pin Grabber Coupler		✓

### BOOM-MOUNT ATTACHMENTS

<b>Undercarriage</b>		<b>Variable Gauge Long Undercarriage</b>
<b>Counterweight</b>		<b>9.0 t (19,842 lb)</b>
<b>Boom Type</b>		<b>Reach HD</b>
Mobile Scrap and Demolition Shears	S2090	✓
	S3070	✓
	S3090	✓



## Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
<b>ENGINE</b>			<b>UNDERCARRIAGE AND STRUCTURES</b>		
Cold start block heaters		✓	Towing eye on base frame	✓	
Three selectable modes: Power, Smart, Eco	✓		Track guiding guard, full length		✓
Automatic engine speed control	✓		Track guiding guard, segmented three piece		✓
Up to 4500 m (14,764 ft) altitude capability	✓		Swivel guard	✓	
52° C (126° F) high-ambient cooling capacity	✓		Grease lubricated track	✓	
Hydraulic reverse fan		✓	9.0 t (19,842 lb) counterweight	✓	
-18° C (0° F) cold start capability	✓		600 mm (24") double grouser track shoes		✓
-32° C (-25° F) cold start capability		✓	600 mm (24") triple grouser track shoes		✓
Double element air filter with integrated precleaner	✓		750 mm (30") triple grouser track shoes		✓
115 amp alternator	✓		<b>BOOM, STICK AND LINKAGE</b>		
Single plane three horizontal cooling system	✓		6.9 m (22'8") Reach boom	✓	
Dual stage 5.5 micron primary filter and 4.4 micron 2nd/3rd filters	✓		3.35 m (11'0") stick	✓	
Secure start with PIN code	✓		Bucket Linkage, TB family without lifting eye, Cat GRADE	✓	
Remote disable	✓		<b>ELECTRICAL SYSTEM</b>		
<b>HYDRAULIC SYSTEM</b>			Maintenance-free 1,000 CCA batteries (×4)	✓	
Boom and stick regeneration circuit	✓		Centralized electrical disconnect switch	✓	
Electronic main control valve	✓		LED chassis light, LH and RH boom lights, cab lights	✓	
Automatic hydraulic oil warm up	✓		Compatible with Electronic Technician	✓	
Automatic swing parking brake	✓				
High performance hydraulic return filter	✓				
Two speed travel	✓				
Bio hydraulic oil capability	✓				
Combined two-way auxiliary circuit		✓			
Medium-pressure auxiliary circuit		✓			
Advanced Tool Control		✓			

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# 352 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
<b>CAT TECHNOLOGY</b>			<b>SERVICE AND MAINTENANCE</b>		
Cat Product Link™	✓		Grouped location of engine oil and fuel filters	✓	
Cat GRADE with 2D	✓		Scheduled Oil Sampling (S·O·S <sup>SM</sup> ) ports	✓	
Cat GRADE with Advanced 2D		✓	<b>SAFETY AND SECURITY</b>		
Cat GRADE with 3D		✓	Caterpillar One Key security system	✓	
Cat Assist:	✓		Lockable external tool/storage box	✓	
– Boom Assist			Lockable door, fuel, and hydraulic tank locks	✓	
– Bucket Assist			Lockable fuel drain compartment	✓	
– Swing Assist			Service platform with anti-skid plate and recessed bolts	✓	
– Grade Assist			RH handrail and hand hold (ISO 2867:2011 compliant)	✓	
– Lift Assist			Standard visibility mirror package	✓	
Cat Payload:	✓		Signaling/warning horn	✓	
– Static weigh			Ground-level secondary engine shutoff switch	✓	
– Auto calibration			Rearview camera	✓	
– Payload/cycle information			360° visibility		✓
E-Fence:	✓				
– E-ceiling					
– E-floor					
– E-swing					
– E-wall					
– E-cab avoidance					

# 352 Attachments

## Dealer Installed Kit and Attachments

Attachments may vary. Consult your Cat dealer for details.

### CAB

- Radial lower wiper
- LH/RH electrical pedal for tool control

### SAFETY AND SECURITY

- Bluetooth® key fob

### GUARDS

- Falling object guard system (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
- Rain protector for front windshield with cab light cover

### ELECTRICAL

- LED premium lights, 1,200 lumens on chassis, 850 lumens on boom and cab

## Cab Options

	Deluxe	Premium
ROPS, standard sound suppression	●	X
ROPS, advanced sound suppression	X	●
High-resolution 254 mm (10") LCD touchscreen monitor	●	●
High-resolution 254 mm (10") LCD touchscreen monitor + additional monitor (only for use with 360° visibility and Cat GRADE with Advanced 2D or Cat GRADE with 3D)	○	○
Automatic bi-level air conditioner	●	●
Jog dial and shortcut keys for monitor control	●	●
Keyless push-to-start engine control	●	●
Height-adjustable console, infinite with no tool	●	●
Heated seat with air-adjustable suspension	●	X
Heated and cooled seat with automatic adjustable suspension	X	●
51 mm (2") seat belt	●	●
Tilt-up left-side console	●	●
Bluetooth integrated radio with USB ports	●	●
12V DC outlets (×2)	●	●
Document storage	●	●
Cup and bottle holders	●	●
Openable two-piece front window	●	○
Radial wiper with washer	●	X
Parallel wiper with washer	X	●
Openable polycarbonate skylight hatch	●	○
LED dome and lower interior lights	●	●
Roller rear sunscreen	○	●

- Standard
- Optional
- X Not available

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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.

AEXQ2523-00 (04-2019)  
Build Number: 07A  
(Japan)

