



# 6060

## Hydraulic Shovel

# Technical Specifications

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

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# 6060 Hydraulic Shovel Specifications

## Diesel Engines – Lesser Regulated

Make and Model	2 × Cat 3512E	
Rated Speed	1,800 min <sup>-1</sup>	1,800 rpm
Power – ISO 14396	2235 kW	2,998 hp
Gross Power – SAE J1995	2256 kW	3,025 hp
Net Power – SAE J1349*	2103 kW	2,821 hp
Net Power – ISO 9249**	2229 kW	2,990 hp
No. of Cylinders (each engine)	12	
Bore	170 mm	6.69 in
Stroke	215 mm	8.46 in
Displacement	58.6 L	3,574 in <sup>3</sup>
Aspiration	Turbocharged and charge air cooled	

- Optimized for fuel consumption.

\* Net power tested per SAE J1349 is the power available at the flywheel when the engine is equipped with alternator, cooling, air intake, and exhaust systems, with maximum fan losses.

\*\* Net power tested per ISO 9249 is the power available at the flywheel when the engine is equipped with alternator, cooling, air intake, and exhaust systems, with minimum fan losses.

## Diesel Engines – Highly Regulated

Make and Model	2 × Cat 3512E	
Rated Speed	1,800 min <sup>-1</sup>	1,800 rpm
Power – ISO 14396	2227 kW	2,987 hp
Gross Power – SAE J1995	2248 kW	3,015 hp
Net Power – SAE J1349*	2095 kW	2,810 hp
Net Power – ISO 9249**	2221 kW	2,979 hp
No. of Cylinders (each engine)	12	
Bore	170 mm	6.69 in
Stroke	215 mm	8.46 in
Displacement	58.6 L	3,574 in <sup>3</sup>
Aspiration	Turbocharged and charge air cooled	

- Meets U.S. EPA Tier 4 Final emission requirements.

These engines participate in the U.S. EPA averaging, banking, and trading provisions.

\* Net power tested per SAE J1349 is the power available at the flywheel when the engine is equipped with alternator, cooling, air intake, and exhaust systems, with maximum fan losses.

\*\* Net power tested per ISO 9249 is the power available at the flywheel when the engine is equipped with alternator, cooling, air intake, and exhaust systems, with minimum fan losses.

## Electrical System

System Voltage	24 V	
Batteries in Series/Parallel Installation	6 × 210 Ah – 12 V each 630 Ah – 24 V in total	

## Operating Weight

6060 Face Shovel			
Standard Track Pads	1400 mm	4 ft 7 in	
Operating Weight*	598 800 kg	1,320,110 lb	
Ground Pressure	26.6 N/cm <sup>2</sup>	38.5 psi	
6060 Backhoe			
Standard Track Pads	1400 mm	4 ft 7 in	
Operating Weight*	600 500 kg	1,323,860 lb	
Ground Pressure	26.7 N/cm <sup>2</sup>	38.7 psi	

\* Operating weights include: base machine, front attachment, standard track pads, standard rock bucket, 100% fuel and lubricants.

## Service Refill Capacities

Fuel Tank Capacity	11 870 L	3,136 gal
Hydraulic Oil Tank Capacity	7100 L	1,876 gal
Total Volume of Hydraulic Oil	9400 L	2,483 gal
Engine Oil Crankcase	2 × 164 L	2 × 43.3 gal
Engine Oil Expansion Tank (optional)	2 × 500 L	2 × 132.1 gal
Engine Coolant	2 × 400 L	2 × 105.7 gal
Pump Transmission Gearbox including Cooling Circuit	2 × 103 L	2 × 27.2 gal
Pump Pre-Chambers at Pump Transmission Gearbox	2 × 14 L	2 × 3.7 gal
Swing Gearbox	4 × 38 L	4 × 10.0 gal
Travel Gearbox	2 × 110 L	2 × 29.1 gal
Travel Motor Chambers	4 × 3.5 L	4 × .92 gal
Grease Tank Capacity	710 L	188 gal

## Hydraulic System

Main Pumps	8 × variable swash plate pumps	
Maximum Oil Flow	8 × 650 L/min	8 × 172 gal/min
Maximum Pressure, Attachment	320 bar	4,640 psi
Maximum Pressure, Travel	360 bar	5,220 psi
Swing Pumps	4 × reversible swash plate pumps	
Maximum Oil Flow	4 × 352 L/min	4 × 93 gal/min
Maximum Pressure	350 bar	5,076 psi

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## Hydraulic Oil Cooling

Oil Flow of Cooling Pumps	4 × 488 L/min	4 × 129 gal/min
Number of Fans	4	
Diameter of Fans	1170 mm	46 in
Fan Speed	Thermostatically controlled	
Cooling System	Fully independent	

## Swing System

Swing Drives	4 compact planetary transmissions with axial piston motors	
Parking Brakes	Wet multiple-disc brake, spring-loaded/hydraulically released	
Maximum Swing Speed	3.8 rpm	
Swing Ring	Triple-race roller bearing with sealed internal gearing	
Swing Circuit	Closed-loop with torque control	

## Undercarriage

Travel Speed (2 stages)		
1st Stage – Maximum	1.1 km/h	0.68 mph
2nd Stage – Maximum	1.6 km/h	0.99 mph
Maximum Tractive Force	2942 kN	661,160 lbf
Gradeability of Travel Drives	21.2°/38.8%	
Track Pads (each side)	42	
Bottom Rollers (each side)	7	
Support Rollers (each side)	2 plus a skid plate in between	
Travel Drives (each side)	1 planetary transmission with 2 two-stage axial piston motors	
Parking Brakes	Wet multiple disc brake, spring loaded/hydraulically released	

## Operator Environment

Operator's Eye Level – Approximately	7.6 m	24 ft 11 in
Internal Dimensions of Cab		
Length	2230 mm	7 ft 4 in
Width	1625 mm	5 ft 4 in
Height	2070 mm	6 ft 9 in
Operator Protective Guard (Top Guard)	ISO 10262:1998 Level II	
Spectator Sound Power Level (L <sub>WA</sub> )*	122 dB(A) ISO 6395:2008	
Operator Sound Pressure Level (L <sub>PA</sub> )*	68 dB(A) ISO 6396:2008	

\* Measurement was conducted at 70% of the maximum engine cooling fan speed and maximum oil cooler fan speed. The sound level may vary at different engine cooling fan speeds. The cab was properly installed and maintained. The measurement was taken with the cab doors and windows closed.

**NOTE:** The dynamic sound power level and sound pressure level uncertainty is ±2 dB(A).

## Air Conditioning System

Each air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 4.1 kg (9.03 lb) of refrigerant, which has a CO<sub>2</sub> equivalent of 5,863 t (6,463 U.S. tons).

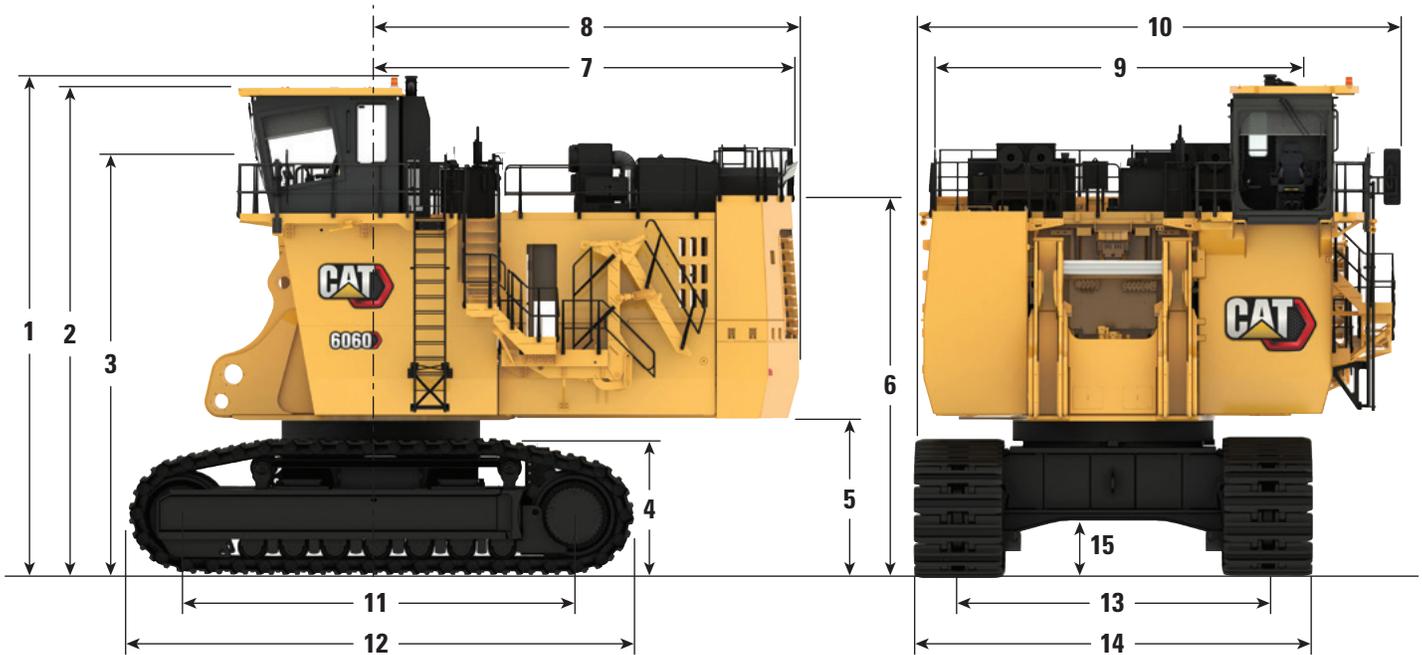
## Optimal Pass Match with Cat Mining Trucks

Type	789	793	794AC	796AC	798AC
Passes	3	4	5	5-6	6

# 6060 Hydraulic Shovel Specifications

## Dimensions

All dimensions are approximate.

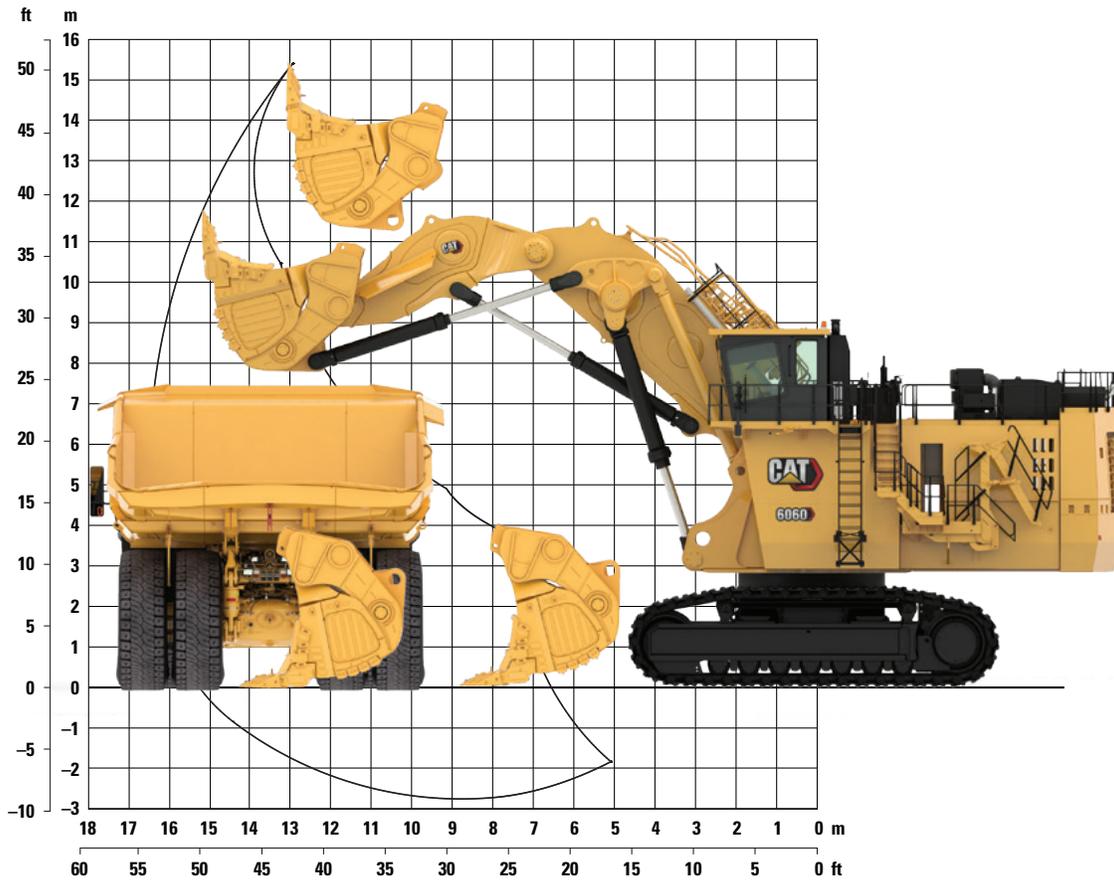


1	Height Overall	9110 mm	29 ft 11 in
2	Height to Top Guard	8860 mm	29 ft 1 in
3	Operator Eye Level	7850 mm	25 ft 9 in
4	Height of Tracks	2490 mm	8 ft 2 in
5	Clearance Under Counterweight	2810 mm	9 ft 3 in
6	Height to Top of Counterweight	6770 mm	22 ft 3 in
7	Tail Overhang	7700 mm	25 ft 3 in
8	Tail Swing Radius	7930 mm	26 ft 0 in
9	Width of Counterweight	7000 mm	23 ft 0 in
10	Width Overall @ 1400 mm [4 ft 7 in] standard pads	8700 mm	28 ft 7 in
11	Length from Sprocket Center to Idler Center	7180 mm	23 ft 7 in
12	Crawler Length	9220 mm	30 ft 3 in
13	Track Gauge	5600 mm	18 ft 4 in
14	Width of Undercarriage	7030 mm	23 ft 1 in
15	Ground Clearance Under Carbody Frame	950 mm	3 ft 1 in

# 6060 Hydraulic Shovel Specifications

## Working Range – TriPower Face Shovel Attachment (FS)

All dimensions are approximate.



<b>Boom</b>	<b>8.0 m</b>	<b>26 ft 2 in</b>	<b>Working Range</b>	
<b>Stick</b>	<b>5.1 m</b>	<b>16 ft 9 in</b>	Maximum Digging Height	15.6 m 51 ft 2 in
<b>Digging Forces (ISO)</b>			Maximum Digging Reach	16.5 m 54 ft 2 in
Maximum Crowd Force	2200 kN	494,410 lbf	Maximum Digging Depth	2.8 m 9 ft 2 in
Maximum Crowd Force at Ground Level	2115 kN	475,300 lbf	Maximum Dumping Height	11.6 m 38 ft 1 in
Maximum Breakout Force	1730 kN	388,780 lbf	Crowd Distance on Level	5.5 m 18 ft 1 in

### Face Shovel Options

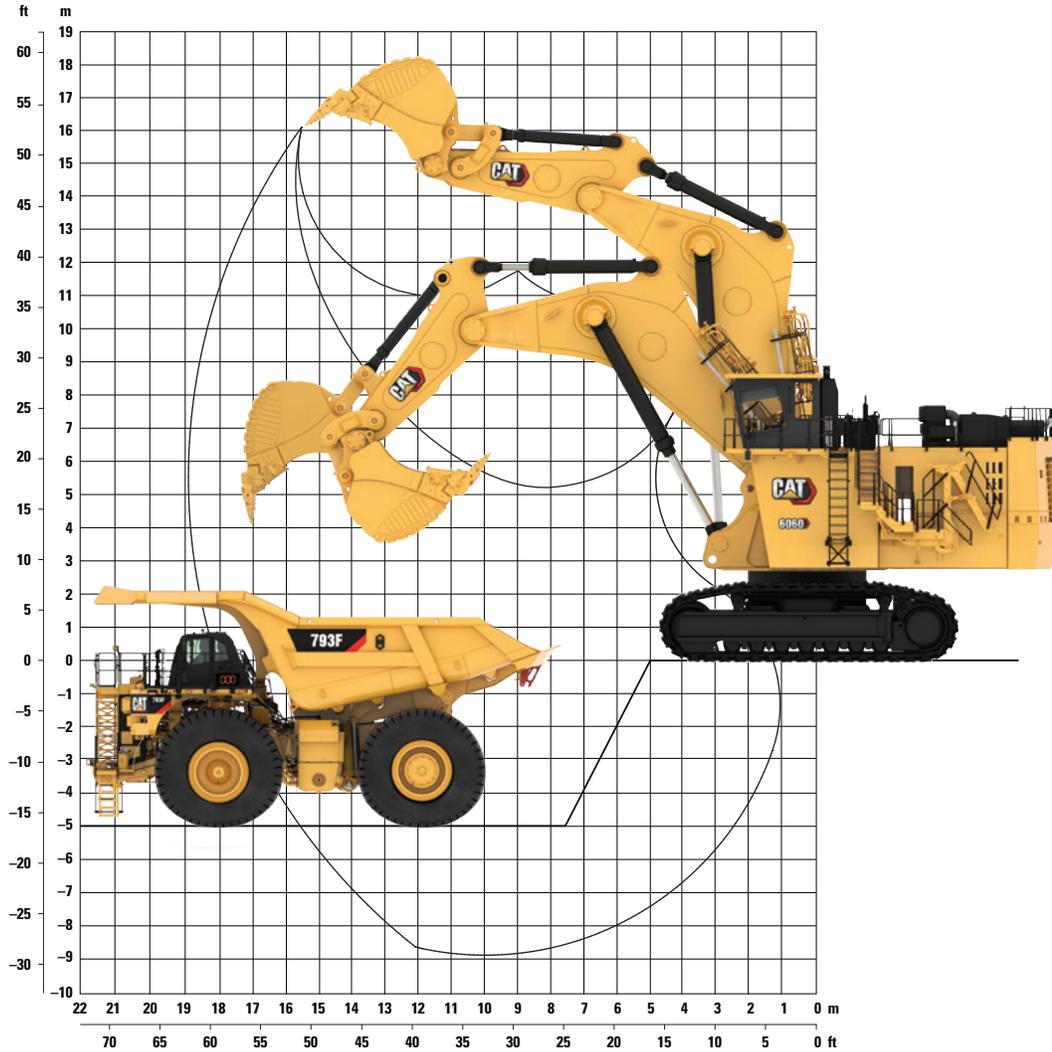
Type	Heavy Rock Bucket		Heavy Rock Bucket		Heavy Rock Bucket		Standard Rock Bucket	
Capacity Heaped 2:1 (ISO 7546)	26.0 m <sup>3</sup>	34.0 yd <sup>3</sup>	28.0 m <sup>3</sup>	36.6 yd <sup>3</sup>	31.0 m <sup>3</sup>	40.5 yd <sup>3</sup>	34.0 m <sup>3</sup>	44.5 yd <sup>3</sup>
Total Width	4766 mm	187.6 in	4766 mm	187.6 in	5562 mm	219.0 in	5562 mm	219.0 in
Opening Width	2600 mm	8 ft 6 in						
Ground Engaging Tools (G.E.T.) System	CL1-W950		CL1-W950		CL1-W950		CL1-W950	
Number of Teeth	6		6		6		6	
Weight with Penetration Tips	44 990 kg	99,186 lb	45 896 kg	101,183 lb	50 126 kg	110,509 lb	50 301 kg	110,895 lb
Rated Material Density (loose)	2.4 t/m <sup>3</sup>	4,050 lb/yd <sup>3</sup>	2.2 t/m <sup>3</sup>	3,710 lb/yd <sup>3</sup>	2.0 t/m <sup>3</sup>	3,370 lb/yd <sup>3</sup>	1.8 t/m <sup>3</sup>	3,030 lb/yd <sup>3</sup>

Other bucket capacities and wear package options are available on request.

# 6060 Hydraulic Shovel Specifications

## Working Range – Backhoe Attachment (BH)

All dimensions are approximate.



<b>Boom</b>	<b>10.5 m</b>	<b>34 ft 5 in</b>	<b>Working Range</b>	
<b>Stick</b>	<b>5.0 m</b>	<b>16 ft 5 in</b>	Maximum Digging Height	16.1 m 52 ft 10 in
<b>Digging Forces (ISO)</b>			Maximum Digging Reach	19.0 m 62 ft 4 in
Maximum Tearout Force	1316 kN	295,740 lbf	Maximum Digging Depth	8.9 m 29 ft 2 in
Maximum Breakout Force	1223 kN	274,840 lbf		

### Backhoe Options

Type	Heavy Rock Bucket		Standard Rock Bucket		Light Duty Bucket	
Capacity Heaped 1:1 (ISO 7451)	31.0 m <sup>3</sup>	40.5 yd <sup>3</sup>	34.0 m <sup>3</sup>	44.5 yd <sup>3</sup>	36.0 m <sup>3</sup>	47.1 yd <sup>3</sup>
Total Width	4765 mm	187.6 in	4765 mm	187.6 in	4765 mm	187.6 in
G.E.T. System	CL1-W900		CL1-W900		CL1-W900	
Number of Teeth	6		6		6	
Weight with Penetration Tips	36 789 kg	81,106 lb	34 491 kg	76,040 lb	34 800 kg	76,721 lb
Rated Material Density (loose)	1.9 t/m <sup>3</sup>	3,370 lb/yd <sup>3</sup>	1.8 t/m <sup>3</sup>	3,030 lb/yd <sup>3</sup>	1.65 t/m <sup>3</sup>	2,780 lb/yd <sup>3</sup>

Other bucket capacities and wear package options are available on request.

## Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
<b>CAT POWER TRAIN</b>			<b>ELECTRICAL SYSTEM</b>		
2 × Cat 3512E engines	✓		6 Maintenance-free batteries	✓	
Aftertreatment System (used in highly regulated countries only): – Diesel Oxidation Catalysts (DOCs) – Non-DEF solution	✓		Lockable battery isolator switch	✓	
Air-to-Air After Cooling (ATAAC)	✓		Lockable starter isolator switch	✓	
Turbocharger	✓		13 LED high-brightness working flood lights	✓	
Hydraulically driven radiator fan	✓		17 LED service lights	✓	
Electronically controlled fan speed	✓		2 acoustic travel alarms – forward and reverse (power module, oil cooler module)	✓	
Micro processed engine management	✓		2 electric horns (1 cab module, 1 oil cooler module)	✓	
Heavy-duty air filters	✓		<b>UNDERCARRIAGE</b>		
Two-stage fuel filter with series filtration	✓		HD tracks with cast double-grouser track pad	✓	
High-capacity water separator	✓		1400 mm (4'7") wide track pads	✓	
Exhaust manifold and turbo heat shields	✓		HD Fixed axle carrier and load rollers	✓	
Starting aid – automatic ether	✓		HD Fixed axle idlers	✓	
Dual 24 V electric starters per engine	✓		Automatic hydraulic retarder valve	✓	
Automatic engine idle shut down	✓		Undercarriage guard (belly plate)		✓
Automatic fuel priming	✓		Hinged travel motor covers	✓	
<b>HYDRAULICS</b>			Hardened running surfaces of sprockets, idlers, rollers, pad links, and teeth contact areas	✓	
Hydraulic Optimization	✓		Fully hydraulic self-adjusting track tensioning system with piston accumulator	✓	
Operator Assist: Enhanced Motion Control	✓		<b>AUTOMATIC LUBRICATION SYSTEM</b>		
Cat Hydraulic Hose assemblies	✓		Rectangular grease container (fill via service station)	✓	
Pump managing system with: – Electronic load limit control – Flow on demand – Automatic zero flow regulation – Automatic engine rpm reduction – Reduced oil flow at high hydraulic oil or engine temperature	✓		Lubricated pinion in swing ring	✓	
Pressure cut-off for main pumps	✓		Grease filters (200 µm)	✓	
Cooling of pump transmission gear oil	✓				
Closed loop swing circuit	✓				
Pressure testing points	✓				
Full-flow high-pressure filters (100 µm), main pumps	✓				
High pressure filters (100 µm), closed swing circuit	✓				
Full-flow filters (10 µm), return circuit	✓				
Pressure filters swing charge circuit (40 µm)	✓				
Pressure filters pilot circuit (6 µm)	✓				
Transmission oil filters (40 µm)	✓				
Boom float valve (FS and BH)	✓				
Stick float valve (FS)	✓				

(continued on next page)

# 6060 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>OPERATOR ENVIRONMENT</b>			<b>FRONT ATTACHMENT</b>		
Single hydraulically driven HVAC system	✓		TriPower Face Shovel kinematics:		✓
Dual hydraulically driven HVAC system		✓	– Horizontal automatic constant-angle bucket guidance		
In-floor window with removable grate	✓		– Vertical automatic constant-angle bucket guidance		
Pneumatically cushioned and multi-adjustable comfort seat with:	✓		– Automatic roll-back limiter to prevent material spillage		
– Heating and cooling			– Kinematic assistance to hydraulic forces		
– Lumbar support			– Constant boom momentum throughout the whole lift arc		
– 2-point safety belt			– Crowd force assistance		
– Head and arm rests			– Guards for shovel cylinders at FS stick		
– Safety switch for automatic motion shutdown			Backhoe attachment		✓
Independently adjustable seat consoles with integrated joysticks	✓		Service access holes from both sides in boom and stick (FS and BH)	✓	
Electronic-Hydraulic Servo Control	✓		Boom and stick thermally stress relieved after welding	✓	
Elevated full-size trainer seat with 2-point safety belt and laptop desk	✓		Catwalks with rails at boom (FS and BH)	✓	
Additional fold-away auxiliary seat with 2-point safety belt	✓		Wear Package (as per bucket selection)	✓	
Three cup holders	✓		<b>CAT TECHNOLOGY</b>		
FM/AM radio with USB and AUX input	✓		Cat Product Link™ Elite	✓	
Parallel intermittent wiper/washer	✓		Cat Product Link Elite Dual Mode (Cellular + Satellite)		✓
Roller blinds	✓		Cat Minestar™ Solutions Ready	✓	
Monitoring system with 254 mm (10 in) color touchscreen	✓				
45° stairway from engine bay to operator cab	✓				
Powered 45° access stairway	✓				
Heated mirror on LH side	✓				
Camera monitoring system (Right and rear cameras, 2 lights, and additional display)		✓			
Level indicators for length and crosswise inclination	✓				
Document storage	✓				

*(continued on next page)*

## Standard and Optional Equipment (continued)

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

	Standard	Optional		Standard	Optional
<b>COLD WEATHER OPTIONS</b>			<b>SAFETY AND SECURITY</b>		
Cold Weather Package (400 V, 50 Hz):		✓	Emergency stop switches: 2 in cab, 5 in engine module, 1 at ground level service station, 1 pull rope accessible from ground level	✓	
– Fuel preheater			Operator Protective Guard (Top Guard)	✓	
– Engine coolant heater with thermostat			All-round safety glass	✓	
– Engine oil heater with thermostat			Emergency egress ladder	✓	
– Hydraulic oil heater with thermostat			<b>MISCELLANEOUS</b>		
– Hydraulic oil cooler bypass valves			ISO or ANSI decals	✓	
– Auxiliary preheating system for cab					
– External power source required, ca 50 kW, 400 V three phase, 50 Hz					
– Recommended for temperatures below –10° C (14° F)					
Cold Weather Package (208 V, 60 Hz):		✓			
– Fuel preheater					
– Engine coolant heater with thermostat					
– Engine oil heater with thermostat					
– Hydraulic oil heater with thermostat					
– Hydraulic oil cooler bypass valves					
– Auxiliary preheating system for cab					
– External power source required, ca 50 kW, 208 V three phase, 60 Hz					
– Recommended for temperatures below –10° C (14° F)					
<b>SERVICE AND MAINTENANCE</b>					
Engine oil exchange interval – 500 hours	✓				
Engine oil exchange interval – 1,000 hours		✓			
Hydraulic oil exchange interval – 10,000 hours	✓				
Scheduled Oil Sampling (S·O·S <sup>SM</sup> ) ports	✓				
Retractable ground level service station with quick couplings for:	✓				
– Diesel fuel					
– Engine coolant – left/right engines					
– Pump transmission gear oil – left/right engines					
– Engine oil – left/right engines					
– Engine oil extension tanks					
– Hydraulic oil					
– Grease					
– Swing transmission gear oil					
Cat battery charging connector	✓				
Dirt wiper at swivel	✓				
Cat Electronic Technician service port	✓				
Indicator lights	✓				

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