



6030

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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6030 Hydraulic Shovel Specifications

Diesel Engines – Lesser Regulated

Make and Model	2 × Cat C27	
Rated Speed	1,800 min ⁻¹	1,800 rpm
Engine Power – ISO 14396:2002	1129 kW	1,514 hp
Total Rated Gross Power – SAE J1995*	1142 kW	1,531 hp
Total Rated Net Power – SAE J1349	1063 kW	1,426 hp
Total Rated Net Power – ISO 9249	1127 kW	1,511 hp
No. of Cylinders (each engine)	12	
Bore	137.7 mm	5.42 in
Stroke	152.4 mm	6.0 in
Displacement	27 L	1,648 in ³
Aspiration	Turbocharged and air-to-air aftercooled	

- Meets China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 2.
- 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 C27	
Rated Speed	1,800 min ⁻¹	1,800 rpm
Engine Power – ISO 14396:2002	1214 kW	1,628 hp
Total Rated Gross Power – SAE J1995*	1230 kW	1,649 hp
Total Rated Net Power – SAE J1349	1149 kW	1,541 hp
Total Rated Net Power – ISO 9249	1212 kW	1,625 hp
No. of Cylinders (each engine)	12	
Bore	137.7 mm	5.42 in
Stroke	152.4 mm	6.0 in
Displacement	27 L	1,648 in ³
Aspiration	Turbocharged and air-to-air aftercooled	

- Meets U.S. EPA Tier 4 Final and EU Stage V emission standards.
- 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	4 × 210 Ah – 12 V each 420 Ah – 24 V

Operating Weights

6030 with TriPower™ Face Shovel Attachment (FS)		
Standard Track Pads	1000 mm	3 ft 3 in
Operating Weight*	298 300 kg	657,640 lb
Ground Pressure	22.2 N/cm ²	32.2 psi
6030 with Backhoe Attachment (BH)		
Standard Track Pads	1000 mm	3 ft 3 in
Operating Weight*	299 400 kg	660,060 lb
Ground Pressure	22.3 N/cm ²	32.3 psi

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

Service Refill Capacities

Fuel Tank	5080 L	1,342 gal
Hydraulic Oil Tank	2675 L	707 gal
Total Volume of Hydraulic Oil	3675 L	971 gal
Engine Oil	2 × 99 L	2 × 26.2 gal
Engine Oil Expansion Tank (option)	2 × 260 L	2 × 68.7 gal
Engine Coolant	2 × 150 L	2 × 39.6 gal
Pump Transmission Gearbox including Cooling Circuit	2 × 25 L	2 × 6.6 gal
Pump Pre-Chambers at Pump Transmission Gearbox	2 × 6 L	2 × 1.6 gal
Swing Gearbox	2 × 38 L	2 × 10 gal
Travel Gearbox	2 × 67.5 L	2 × 17.8 gal
Square Grease Tank	450 L	119 gal

Hydraulic System

Main Pumps	4 × variable swash plate pumps	
Maximum Oil Flow	4 × 552 L/min	4 × 146 gal/min
Maximum Pressure, Attachment	310 bar	4,495 psi
Maximum Pressure, Travel	360 bar	5,220 psi
Swing Pumps	2 × reversible swash plate double pumps	
Maximum Oil Flow	4 × 197 L/min	4 × 52 gal/min
Maximum Pressure	350 bar	5,076 psi

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Hydraulic Oil Cooling

Oil Flow of Cooling Pumps	2 × 467 L/min	2 × 123 gal/min
Number of Fans	2	
Diameter of Fans	1220 mm	48 in
Fan Speed	Thermostatically controlled	
Cooling System	Fully independent	

Swing System

Swing Drives	2 compact planetary transmissions with axial piston motors	
Parking Brakes	Wet multiple-disc brake, spring-loaded/hydraulically released	
Maximum Swing Speed	4.6 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	1.4 km/h	0.87 mph
2nd Stage – Maximum	2.7 km/h	1.68 mph
Maximum Tractive Force	1602 kN	360,144 lbf
Gradeability of Travel Drives	25.6°/47%	
Track Pads (each side)	44	
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	6.5 m	21 ft 4 in
Internal Dimensions of Cab		
Length	2200 mm	7 ft 3 in
Width	1600 mm	5 ft 3 in
Height	2150 mm	7 ft 1 in
Spectator Sound Power Level (L _{WA})* ISO 6395:2008	117 dB(A)	
Operator Sound Pressure Level (L _{PA})* ISO 6396:2008	76 dB(A)	
Operator Protective Guard (Front and Top Guards)	ISO 10262:1998 Level II	

* Measurement was conducted at 70% of the maximum engine cooling 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

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.8 kg (6.2 lb) of refrigerant, which has a CO₂ equivalent of 4.004 t (4.4136 U.S. tons) per engine.

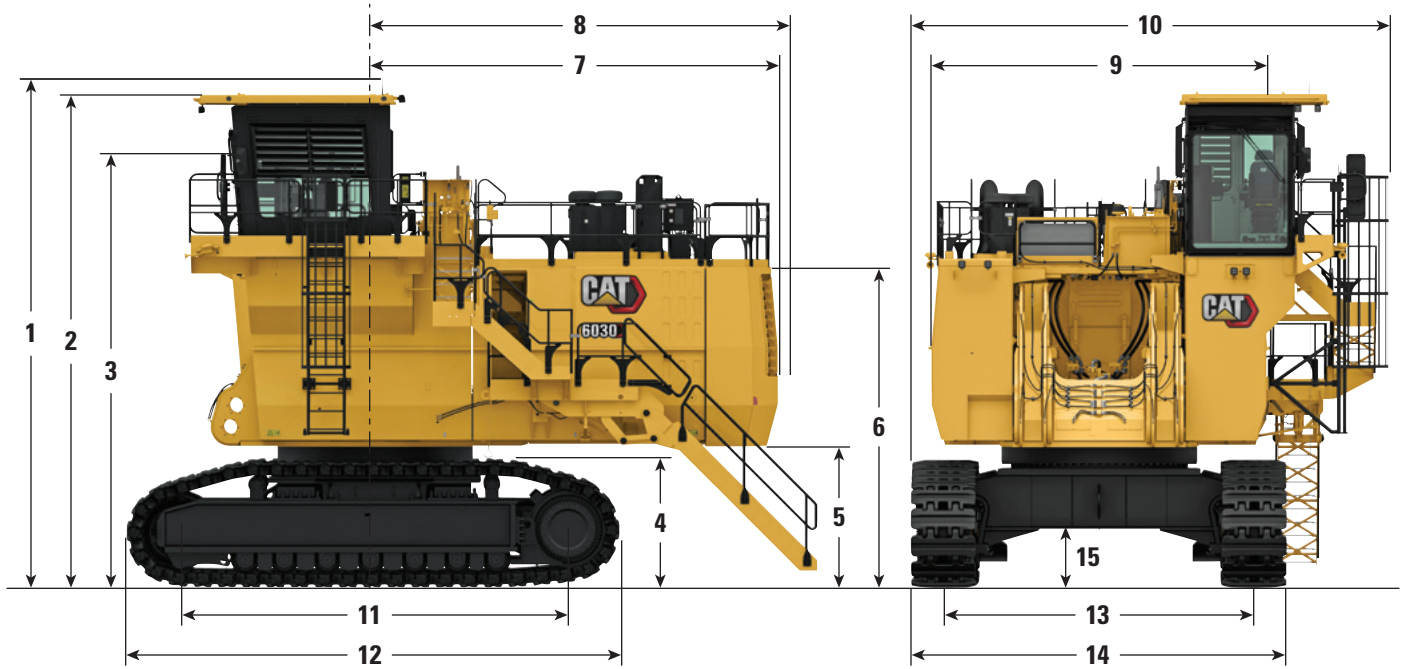
Loading and Hauling System – Pass Match

	777	785	789	793
6030	3	4-5	6	7-8

6030 Hydraulic Shovel Specifications

Dimensions

All dimensions are approximate.

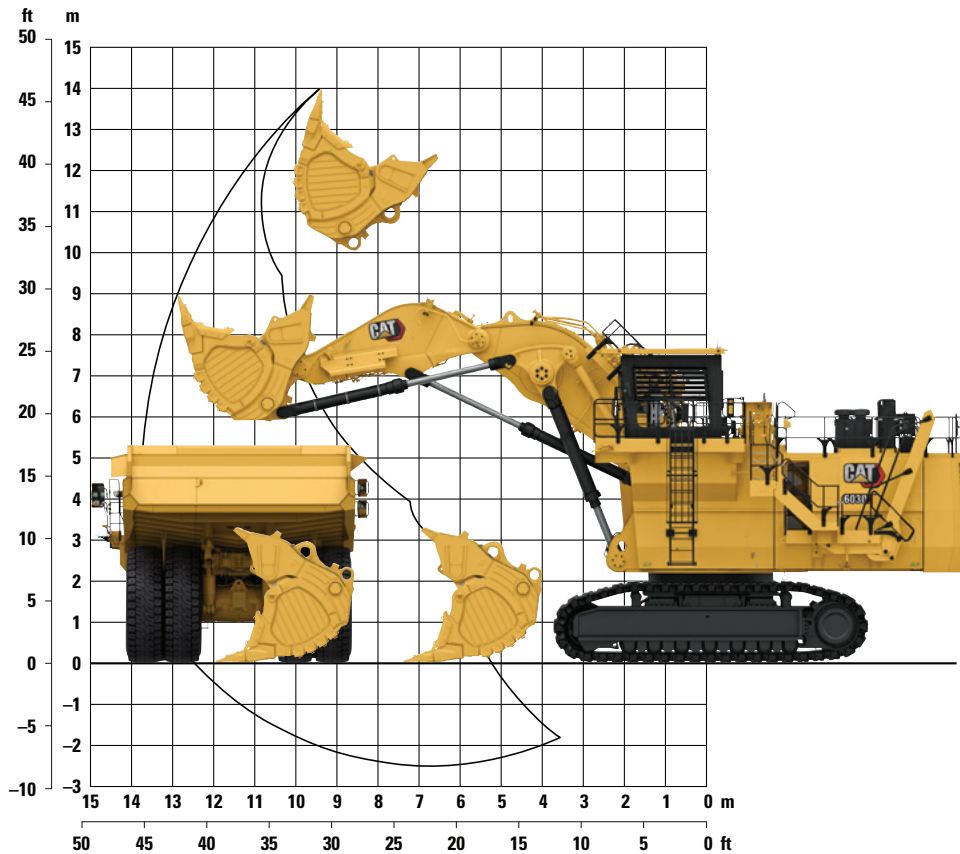


1 Height Overall	8050 mm	26 ft 5 in
2 Height to Top Guard	7750 mm	25 ft 5 in
3 Operator Eye Level	6500 mm	21 ft 4 in
4 Height of Tracks	1940 mm	6 ft 4 in
5 Clearance Under Counterweight	2170 mm	7 ft 1 in
6 Height to Top of Counterweight	4970 mm	16 ft 4 in
7 Tail Overhang	6330 mm	20 ft 9 in
8 Tail Swing Radius	6450 mm	21 ft 2 in
9 Width of Counterweight	5300 mm	17 ft 5 in
10 Width Overall (@ 1000 mm [3 ft 3 in] standard pads)	7520 mm	24 ft 8 in
11 Length from Sprocket Center to Idler Center	6010 mm	19 ft 9 in
12 Crawler Length	7660 mm	25 ft 2 in
13 Track Gauge	4800 mm	15 ft 9 in
14 Width of Undercarriage	5800 mm	19 ft 1 in
15 Ground Clearance under Carbody Frame	880 mm	2 ft 11 in

6030 Hydraulic Shovel Specifications

Working Range – TriPower Face Shovel Attachment (FS)

All dimensions are approximate.



Boom	6.2 m	20 ft 4 in	Working Range		
Stick	4.4 m	14 ft 5 in	Maximum Digging Height	13.9 m	45 ft 7 in
Digging Forces (ISO)			Maximum Digging Reach	13.7 m	44 ft 11 in
Maximum Crowd Force	1298 kN	291,700 lbf	Maximum Digging Depth	2.5 m	8 ft 2 in
Maximum Crowd Force at Ground Level	1215 kN	273,050 lbf	Maximum Dumping Height	10.7 m	35 ft 1 in
Maximum Breakout Force	954 kN	214,390 lbf	Crowd Distance on Level	4.9 m	16 ft 1 in

Face Shovel

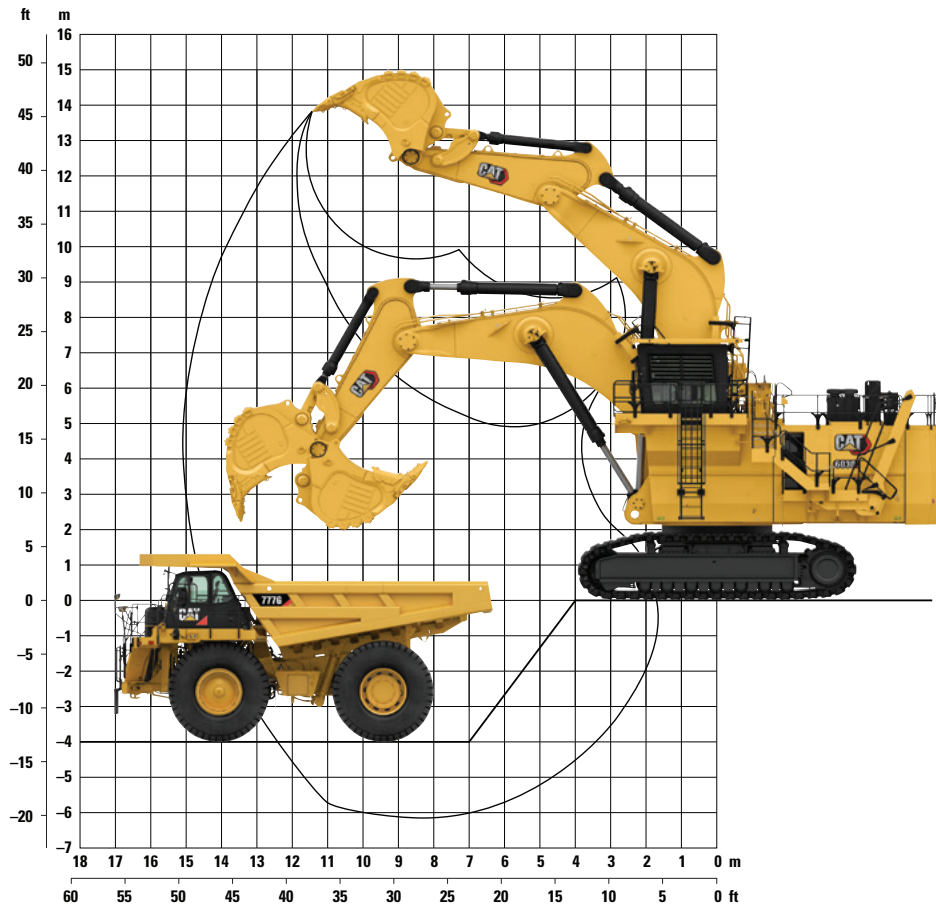
Type	Iron Ore	Heavy Rock	Heavy Rock	Standard Rock	Standard Rock
Capacity Heaped 2:1 (ISO 7546)	12.0 m ³ (15.7 yd ³)	13.5 m ³ (17.7 yd ³)	15.0 m ³ (19.6 yd ³)	16.5 m ³ (21.6 yd ³)	16.5 m ³ (21.6 yd ³)
Total Width	3931 mm (155 in)	3931 mm (155 in)	3931 mm (155 in)	3931 mm (155 in)	3931 mm (155 in)
Opening Width	1769 mm (69.6 in)	1764 mm (69.4 in)	1664 mm (65.5 in)	1772 mm (69.8 in)	1772 mm (69.8 in)
GET System	C95	C95	C95	C95	C95
Number of Teeth	6	6	6	6	6
Wear Package	Heavy Duty – Abrasion	Heavy Duty – Abrasion	Heavy Duty – Abrasion	Standard Duty	Heavy Duty – Abrasion
Weight in Standard Configuration, Including GET	25 866 kg (57,025 lb)	26 692 kg (58,846 lb)	26 923 kg (59,355 lb)	27 246 kg (60,067 lb)	27 352 kg (60,301 lb)
Nominal Material Density at 100% Fill Factor	2.6 t/m ³ (4,380 lb/yd ³)	2.2 t/m ³ (3,708 lb/yd ³)	2.0 t/m ³ (3,370 lb/yd ³)	1.8 t/m ³ (3,030 lb/yd ³)	1.8 t/m ³ (3,030 lb/yd ³)

Additional bucket capacities and wear packages are available upon request.

6030 Hydraulic Shovel Specifications

Working Range – Backhoe Attachment (BH)

All dimensions are approximate.



Boom	8.5 m	27 ft 11 in	Working Range	
Stick	4.0 m	13 ft 1 in	Maximum Digging Height	13.8 m 45 ft 3 in
Digging Forces (ISO)			Maximum Digging Reach	15.1 m 49 ft 6 in
Maximum Tearout Force	944 kN	212,150 lbf	Maximum Digging Depth	6.2 m 20 ft 4 in
Maximum Breakout Force	880 kN	197,760 lbf		

Backhoe Buckets

Type	Iron Ore	Heavy Rock	Heavy Rock	Standard Rock	Light Rock
Capacity Heaped 1:1 (ISO 7451)	12.0 m ³ (15.7 yd ³)	15.0 m ³ (19.6 yd ³)	15.0 m ³ (19.6 yd ³)	17.0 m ³ (22.2 yd ³)	18.0 m ³ (23.5 yd ³)
Total Width	3520 mm (139 in)	3950 mm (156 in)	3950 mm (156 in)	4240 mm (167 in)	4430 mm (174 in)
GET System	C85	C85	C85	C85	C85
Number of Teeth	6	6	6	6	6
Wear Package	Extreme Duty – Abrasion	Extreme Duty – Abrasion	Heavy Duty – Abrasion	Heavy Duty – Impact	Standard Duty
Weight in Standard Configuration, Including GET	15 635 kg (34,469 lb)	19 789 kg (43,627 lb)	17 195 kg (37,908 lb)	19 006 kg (41,901 lb)	19 436 kg (42,849 lb)
Nominal Material Density at 100% Fill Factor	2.6 t/m ³ (4,380 lb/yd ³)	2.0 t/m ³ (3,370 lb/yd ³)	2.0 t/m ³ (3,370 lb/yd ³)	1.8 t/m ³ (3,030 lb/yd ³)	1.65 t/m ³ (2,780 lb/yd ³)

Additional bucket capacities and wear packages are available upon request.

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
CAT POWER TRAIN			ELECTRICAL SYSTEM		
2 × Cat C27 engines	✓		4 maintenance-free batteries	✓	
Aftertreatment system (used in Tier 4 Final/Stage V only):	✓		Lockable battery isolator switch	✓	
– Diesel Oxidation Catalyst (DOC)			Lockable starter isolator switch	✓	
– NO _x Reduction System (NRS)			14 LED high-brightness working flood lights	✓	
– Non-DEF solution			11 LED service lights	✓	
Air-to-Air After Cooling (ATAAC)	✓		2 acoustic travel alarms – forward and reverse (counterweight, oil cooler)	✓	
Turbocharger	✓		2 electric horns (1 cab module, 1 oil cooler module)	✓	
Hydraulically driven radiator fan	✓		UNDERCARRIAGE		
Electronically controlled fan speed	✓		HD tracks with cast double-grouser track pads	✓	
Micro processed engine management	✓		800 mm (2 ft 7 in) wide track pads		✓
Cat CEM air filters	✓		1000 mm (3 ft 3 in) wide track pads	✓	
Two-stage fuel filter with series filtration	✓		1200 mm (3 ft 11 in) wide track pads		✓
High-capacity water separator	✓		HD fixed axle carrier and load rollers	✓	
Starting aid – automatic ether	✓		HD fixed axle idlers	✓	
Exhaust manifold and turbo heat shields	✓		Undercarriage guard (belly plate)		✓
24 V electric starter	✓		Automatic hydraulic retarder valve	✓	
Automatic engine idle shut down	✓		Hinged travel motor covers	✓	
Automatic fuel priming	✓		Hardened running surfaces of sprockets, idlers, rollers, pad links, teeth contact areas	✓	
HYDRAULICS			Fully hydraulic self-adjusting track tensioning system with piston accumulators	✓	
Pump managing system with:	✓		AUTOMATIC LUBRICATION SYSTEM		
– Electronic load limit control			Square grease container, 450 L (119 gal) capacity (fill via service station)		✓
– Flow on demand			Round grease container, 200 L (53 gal) capacity (insert barrel or fill via service station with additional kit)		✓
– Automatic zero flow regulation			Lubricated pinion in swing ring	✓	
– Automatic engine RPM reduction			Grease filters (200 μm)	✓	
– Reduced oil flow at high hydraulic oil or engine temperature					
Pressure cut-off for main pumps	✓				
Cat Hydraulic Hose assemblies	✓				
Cooling of pump transmission gear oil	✓				
Continuous hydraulic oil filtration	✓				
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	✓				
Full-flow filters (10 μm), cooling return circuit	✓				
Pressure filters (40 μm and 6 μm), servo circuit	✓				
Transmission oil filters (40 μm)	✓				
Boom float valves (FS and BH)	✓				
Stick float valves (FS)	✓				

(continued on next page)

6030 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
OPERATOR ENVIRONMENT			FRONT ATTACHMENT		
Single HVAC system	✓		TriPower Face Shovel attachment:		✓
Dual HVAC system		✓	– Horizontal automatic constant-angle bucket guidance		
Auxiliary Cab Heater		✓	– Vertical automatic constant-angle bucket guidance		
Pneumatically cushioned and multi-adjustable comfort seat with:	✓		– Automatic roll-back limiter to prevent material spillage		
– Seat heating			– 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	✓		Frontless base machine (no boom, no stick, no linkage or kinematics)		✓
Electronic-Hydraulic Servo Control	✓		Service access holes in boom and stick (FS and BH)	✓	
FM/AM radio with USB and AUX input	✓		Boom and stick thermally stress relieved after welding	✓	
Fold-away auxiliary seat with 2-point safety belt	✓		Catwalks with rails at boom (FS and BH)	✓	
Sliding side window	✓		Wear Package (as per bucket selection)	✓	
Parallel intermittent wiper/washer	✓		CAT TECHNOLOGY		
Roller blinds at all windows	✓		Cat Product Link™ Elite (Cellular)	✓	
External sun shields at side and rear windows	✓		Cat Product Link Elite (Satellite)		✓
Cat Board Control system:	✓		Cat Product Link Elite (No radio)		✓
– 305 mm (12 in) color touchscreen			Cat MineStar™ Solutions Ready	✓	
– On-screen documentation in .pdf			COLD WEATHER OPTIONS		
– On-screen troubleshooting assistance			Cold Weather Package (400 V, 50 Hz):		✓
– On-screen graphic charts of logged data			– Auxiliary heating system for cab		
– Fault memory of related conditions			– Fuel blender		
– USB, LAN (TCP/IP) and CAN BUS interfaces for data export			– Engine coolant heater		
Control and Monitoring Platform (CAMP)	✓		– Engine oil heater with thermostat		
45° stairway from engine bay to operator cab	✓		– Hydraulic oil heater with thermostat		
Powered 45° access stairway	✓		– External power source required, ca 50 kW, 400 V three phase, 50 Hz		
2 mirrors on LH side, 1 heated	✓		– Recommended for temperatures below –10° C (14° F)		
Camera Monitoring System 2.0 (right and rear cameras, 254 mm [10"] HD color technology display, and harnesses)		✓	Cold Weather Package (208 V, 60 Hz):		✓
Level indicators for length and crosswise inclination	✓		– Auxiliary heating system for cab		
Document storage	✓		– Fuel preheater		
			– Engine coolant tank heater		
			– Engine oil heater with thermostat		
			– Hydraulic oil heater with thermostat		
			– External power source required, ca 50 kW, 208 V three phase, 60 Hz		
			– Recommended for temperatures below –10° C (14° F)		

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6030 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
SERVICE AND MAINTENANCE			SAFETY AND SECURITY		
Engine oil exchange interval – 500 hours	✓		Emergency stop switches: 1 in cab, 3 in engine module, 1 pull rope accessible from ground level and 1 on service station	✓	
Engine oil exchange interval – 1,000 hours		✓	Operator Protective Guard (Front Guard)		✓
Hydraulic oil change interval – 10,000 hours	✓		Operator Protective Guard (Top Guard)	✓	
S·O·S SM sampling ports	✓		All-round safety glass	✓	
Cat CEM air filters with precleaner dust ejection system	✓		Armored windshield	✓	
Retractable ground level service station with quick couplings for:	✓		Emergency egress ladder	✓	
– Diesel fuel			MISCELLANEOUS		
– Engine coolant – left/right engines			ISO or ANSI decals	✓	
– Pump transmission gear oil – left/right engines					
– Engine oil – left/right engines					
– Hydraulic oil					
– Grease					
– Engine oil extension tanks					
Cat battery charging connector	✓				
Indicator lights	✓				
Cat Electronic Technician service port	✓				

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AEXQ2548-02 (06-2022)
Replaces AEXQ2548-01
Build Number: 03B
(Global)

