



# Cat<sup>®</sup> 6030

## Hydraulic Shovel

***Equipped with proven and reliable C27 engines, the fully converted Cat<sup>®</sup> 6030 Hydraulic Shovel provides the most powerful engine output in its class – delivering the productivity you expect, with the reliability you demand. When paired with our 777 to 793 series mining trucks, you'll experience the operational efficiency you are looking for, supported by our unmatched Cat dealer network.***

### **Optimize Your Operation with a Robust Drive System and Our Engine Design**

- Select the drive system best suited for your operation. The Cat 6030 can be equipped with either two C27 diesel engines for greater mobility and productivity or a single-motor electric driven machine to meet your specific needs.
- Boost productivity with the durable and reliable C27 engine – now available for both highly regulated or lesser regulated countries. Certified to meet U.S. EPA Tier 4 Final/EU Stage V emission standards, our highly regulated, non-SCR solution is maintenance free and does not require Diesel Exhaust Fluid (DEF). Our lesser regulated solution meets China Nonroad Stage III emission standards, equivalent to Tier 2.
- Maintain approximately 65% of full production or move away from high walls, blast zones, or other safety hazards when in need of engine repair with single-engine operation. With our design, the shovel can exert maximum digging forces, and continue to recuperate energy via its closed-loop swing circuit using just a single engine.
- Simplify and expedite troubleshooting by comparing one engine and associated hydraulic network to the other, generating more uptime, and more productivity.

### **Lower Costs per Ton with Higher Productivity and Greater Efficiency**

- Produce the most tons per hour at a lower cost with industry leading bucket capacity and fuel efficiency.
- Realize faster boom movements and cycle times with boom lowering float valves. Using gravity rather than hydraulic pumps to lower the boom increases efficiency and enables pumps to support other functions simultaneously, such as bucket curl and stick in or out.
- Improve energy efficiency and generate less heat with our closed-loop swing system. Kinetic energy captured during swing motion is fed back to the system during deceleration, providing more power to drive the main and auxiliary pumps. This reduces the load on the engines and fuel consumption.
- Increase component life and engine efficiency with our pump management system. This system continuously evaluates real-time engine and hydraulic operating values against set values and adjusts pump output accordingly.
- Protect and extend the life of hydraulic components with our independent oil cooling system. This system functions independent of hydraulic return oil, which increases efficiency by utilizing dedicated pumps to provide cooling capacity as needed, whether the engines are idling or under load. This translates to optimum oil temperature throughout the duty cycle. Additional efficiency is gained from our thermostatically controlled radiator fan speed.
- Experience greater control with five circuit hydraulics, allowing for two-cylinder motions, two travel motions, and swing to be controlled simultaneously.
- Connect to Cat MineStar<sup>™</sup> Solutions with Product Link<sup>™</sup> Elite and either a cellular or satellite radio, which comes standard with every machine. The use of Terrain enables guidance technology and high-precision management of loading operations to increase machine productivity. Real-time feedback improves efficiency.
- Achieve targeted production with an optimized loading and hauling system to maximize volume of material moved at the lowest operating cost per ton. The Cat 6030 is suited to load a wide range of large mining trucks including the Cat 777, 785, 789, or 793.



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## Dig More Effectively with Our Unique TriPower™ Face Shovel Design

- Generate superior mechanical leverage and control with our unique boom design and rotatable triangular rockers. These features facilitate quicker cycle times, increased lifting forces, constant boom momentum, automatic constant bucket angle guidance, and automatically limit roll-back.
- Achieve faster lifting speeds and cycle times with the use of smaller-diameter boom cylinders.
- Maintain constant boom momentum and lifting speed throughout the entire lifting distance.
- Minimize material spillage during boom lifting with our automatic constant bucket angle feature. This enables operators to work more safely and efficiently while lowering cost per ton.
- Reduce the risk of material spillage with our automatic roll-back limiter. This feature ensures the bucket is always in a safe position – especially at maximum height.

## Reduce Owning and Operating Costs with Greater Reliability, Durability, and Serviceability

- Withstand harsh mining conditions with rugged front attachments designed with high-strength steel and castings, which are joined and thermally stressed-relieved to extend service life and achieve production targets.
- Increase uptime with our new and improved undercarriage. Updated heavy duty load rollers and idlers incorporate duo cone seals, steel-back bronze bearings and fixed axle technology resulting in increased service life and elimination of overheating during travel. Improvements to track pads, track tensioning, and wear volume increase durability and reliability of the undercarriage as well. The new heavy-duty rollers are retrofittable to improve reliability of shovels in the field.
- Monitor critical event-based machine condition and operating data with the Board Control System (BCS) which offers a comprehensive range of diagnostic and reporting tools. The BCS uses sensors throughout the machine to monitor operating data, record faults, and notify the operator audibly and visibly.
- Connect to MineStar Health for expanded condition monitoring and send reports via the Product Link Elite radio to fleet operations.
- Access engine compartment, superstructure components, and ground-level service station more easily, for safer and more streamlined serviceability.
- Inspect, maintain, and repair hydraulic components more efficiently with placement of the main valve block on the boom and improved routing and clamping of hoses. The integration of Cat hose assemblies ensures they can be built locally, which reduces downtime and operating costs.
- Diagnose and execute engine maintenance more effectively with access to Cat Electronic Technician to include fully serviceable Cat parts identification and stocking, and full integration of service documentation.

## Get Peak Operator Performance with Our Safe and Comfortable Operator Environment

- Protect operators with excellent visibility, safety glass in all cab windows, a top guard protection system and armored glass for the windshield as standard. An additional front guard is optional.
- Neutralize hydraulic controls when the operator leaves the seat with our integrated safety switch.
- Reduce operator fatigue with a heated, pneumatically cushioned, multi-adjustable operator's seat, enhanced electro-hydraulic servo control, and intuitive on-board electronics.
- Monitor vital machine and diagnostic data on the large, color touchscreen for convenient troubleshooting and service assistance.
- Maintain internal ambient temperature with a single HVAC system or upgrade to a dual HVAC system.

## Return Operators Home Safely Everyday with Our Standard Safety Features

- Access, egress, and move about the machine more safely with 45° angled stairways, slide-down emergency ladder with safety cage, and hydraulically operated boarding ladder. Machine swing and propel capabilities are automatically disabled while boarding stairway is lowered.
- Increase operational safety with improved sealing between engines and hydraulic pumps, improved routing and separation of hydraulic lines and electric cables, pressure relief caps, and protective heat covers on exhaust and turbo pipes, mufflers, and coolant tanks.
- Improve machine service and maintenance safety with anti-slip walkways, a ground-level service station, LED lights, and easily accessible emergency shut-off and isolation switches.

## Loading and Hauling System – Pass Match

	Cat® 777	Cat 785	Cat 789	Cat 793
6030	3	5	6	7-8

## 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>OPERATOR ENVIRONMENT</b>		
2 × Cat C27 engines	✓		Single HVAC system	✓	
Aftertreatment system (used in Tier 4 Final/Stage V only): – Diesel Oxidation Catalyst (DOC) – NO <sub>x</sub> Reduction System (NRS) – Non-DEF solution	✓		Dual HVAC system		✓
Hydraulically driven radiator fan	✓		Heated, pneumatically cushioned and multi-adjustable comfort seat	✓	
Electronically controlled fan speed	✓		Safety switch for automatic motion shutdown	✓	
Two-stage fuel filter with series filtration	✓		Independently adjustable seat consoles with integrated joysticks	✓	
Automatic engine idle shut down	✓		FM/AM radio with USB and AUX input	✓	
<b>HYDRAULICS</b>			Fold away auxiliary seat	✓	
Pump managing system: – Electronic load limit control – Flow on demand – Automatic zero flow regulation – Automatic engine RPM reduction	✓		Sliding side window	✓	
Pressure cut-off for main pumps	✓		Roller blinds at all windows	✓	
Cat Hydraulic Hose assemblies	✓		External sun shields	✓	
Closed loop swing circuit	✓		Camera Monitoring System 2.0		✓
Boom float valves	✓		Cat Board Control system with 305 mm (12 in) color touchscreen	✓	
<b>ELECTRICAL SYSTEM</b>			Level indicators for length and crosswise inclination	✓	
4 maintenance-free batteries	✓		<b>CAT TECHNOLOGY</b>		
14 LED high-brightness working flood lights	✓		Cat Product Link™ Elite (Cellular)	✓	
11 LED service lights	✓		Cat Product Link Elite (Satellite)		✓
2 acoustic travel alarms (forward and reverse)	✓		Cat Product Link Elite (No radio)		✓
<b>UNDERCARRIAGE AND STRUCTURES</b>			Cat MineStar™ Solutions Ready	✓	
HD tracks	✓		<b>COLD WEATHER</b>		
800 mm (2 ft 7 in) wide track pads		✓	Cold Weather Package (400 V; 50 Hz)		✓
1000 mm (3 ft 3 in) wide track pads	✓		Cold Weather Package (208 V; 60 Hz)		✓
1200 mm (3 ft 11 in) wide track pads		✓	Auxiliary cab heater		✓
Undercarriage guard (belly plate)		✓	<b>SERVICE AND MAINTENANCE</b>		
HD fixed axle carrier and load rollers	✓		Retractable ground level service station	✓	
HD fixed axle idlers	✓		S-O-S <sup>SM</sup> sampling ports	✓	
Automatic hydraulic retarder valve	✓		Engine oil exchange interval – 500 hours	✓	
Fully hydraulic self-adjusting track tensioning	✓		Engine oil exchange interval – 1,000 hours		✓
<b>FRONT ATTACHMENT</b>			Hydraulic oil exchange interval – 10,000 hours	✓	
TriPower™ kinematics (Face Shovel only)		✓	Cat CEM air filters with dust ejection system	✓	
Guards for shovel cylinders at FS stick	✓		<b>SAFETY AND SECURITY</b>		
Backhoe attachment		✓	Emergency egress ladder	✓	
Frontless base machine		✓	All-around safety glass	✓	
Wear package and shrouds	✓		Armored windshield	✓	
Special wear packages		✓	Operator Protective Guard (Top Guard)	✓	
			Operator Protective Guard (Front Guard)		✓
			6 emergency stop switches	✓	
			<b>MISCELLANEOUS</b>		
			ISO or ANSI decals	✓	

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## Technical Specifications

### Diesel Engines – Lesser Regulated

Make and Model	2 × Cat C27	
Rated Speed	1800 min <sup>-1</sup>	1,800 rpm
Total Rated Gross Power – SAE J1995	1142 kW	1,531 hp
• Meets China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 2.		

### Diesel Engines – Highly Regulated

Make and Model	2 × Cat C27	
Rated Speed	1800 min <sup>-1</sup>	1,800 rpm
Total Rated Gross Power – SAE J1995	1230 kW	1,649 hp
• Meets U.S. EPA Tier 4 Final and EU Stage V emission standards.		

### Electrical System

System Voltage	24 V	
Batteries in Series/Parallel Installation	4 × 210 Ah – 12 V each 420 Ah – 24 V	

### Operating Weights

Face Shovel (FS)	298 300 kg	657,640 lb
Backhoe (BH)	299 400 kg	660,060 lb
• 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 Tank	2675 L	707 gal
Hydraulic System (including tank)	3675 L	971 gal
Engine Oil	2 × 99 L	2 × 26.2 gal
Engine Coolant	2 × 150 L	2 × 39.6 gal
Square Grease Container	450 L	119 gal

### Hydraulics

Maximum Flow to Main Pumps	4 × 552 L/min	4 × 146 gal/min
Maximum Pressure – Attachment	310 bar	4,495 psi
Maximum Pressure – Travel	360 bar	5,220 psi
Maximum Flow to Swing Pumps	4 × 197 L/min	4 × 52 gal/min
Maximum Pressure – Swing	350 bar	5,076 psi

### Swing System

Swing Speed	4.6 rpm	
Swing Circuit	Closed-loop with Torque Control	

### Undercarriage

Maximum Travel Speed – 1st Stage	1.4 km/h	0.87 mph
Maximum Travel Speed – 2nd Stage	2.7 km/h	1.68 mph
Maximum Tractive Force	1602 kN	360,144 lbf

### Operator Environment

Operator's Eye Level	6.5 m	21 ft 4 in
Spectator Sound Power Level (L <sub>WA</sub> ) ISO 6395:2008	117 dB(A)	
Operator Sound Pressure Level (L <sub>PA</sub> ) ISO 6396:2008	76 dB(A)	
Operator Protective Guard (Front and Top Guard)	ISO 10262:1998 Level II	

### Dimensions

Height Overall	8050 mm	26 ft 5 in
Height of Tracks	1940 mm	6 ft 4 in
Clearance Under Counterweight	2170 mm	7 ft 1 in
Tail Swing Radius	6450 mm	21 ft 2 in
Width Overall (@ 1000 mm [3 ft 3 in])	7520 mm	24 ft 8 in
Crawler Length	7660 mm	25 ft 2 in
Track Gauge	4800 mm	15 ft 9 in

### Working Ranges and Forces

#### Face Shovel

<b>Boom</b>	<b>6.2 m</b>	<b>20 ft 4 in</b>
<b>Stick</b>	<b>4.4 m</b>	<b>14 ft 5 in</b>
<b>Standard Rock Bucket Heaped 2:1 (ISO 7546)</b>	<b>16.5 m<sup>3</sup></b>	<b>21.6 yd<sup>3</sup></b>
G.E.T. System with Six (6) Teeth	C95	
Maximum Crowd Force (ISO)	1298 kN	291,700 lbf
Maximum Breakout Force (ISO)	954 kN	214,390 lbf
Maximum Digging Height	13.9 m	45 ft 7 in
Maximum Digging Reach	13.7 m	44 ft 11 in

#### Backhoe

<b>Boom</b>	<b>8.5 m</b>	<b>27 ft 11 in</b>
<b>Stick</b>	<b>4.0 m</b>	<b>13 ft 1 in</b>
<b>Standard Rock Bucket Heaped 1:1 (ISO 7451)</b>	<b>17.0 m<sup>3</sup></b>	<b>22.2 yd<sup>3</sup></b>
G.E.T. System with Six (6) Teeth	C85	
Maximum Tearout Force (ISO)	944 kN	212,150 lbf
Maximum Breakout Force (ISO)	880 kN	197,760 lbf
Maximum Digging Depth	6.2 m	20 ft 4 in
Maximum Digging Reach	15.1 m	49 ft 6 in

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