



# Cat<sup>®</sup> 6015

## Hydraulic Shovel

***With class-leading tool carrying capacity, increased durability, and the most powerful engine in its class, the Cat<sup>®</sup> 6015 Hydraulic Shovel generates higher productivity and fuel efficiency than other shovels. When optimally paired with our 773, 775, or 777 trucks, the 6015 can work across a full spectrum of applications, to include: mining, heavy construction, quarry and aggregate, and industrial applications.***

### **Optimize Your Operation with a Shovel Built to Reduce Environmental Impacts**

- Boost productivity with a durable and reliable Cat<sup>®</sup> C27 engine, available for both highly regulated and less regulated countries. Certified to meet U.S. EPA Tier 4 Final/EU Stage V emission standards, our non-SCR solution is maintenance free and does not require Diesel Exhaust Fluid (DEF). Two less regulated solutions are available, one meets China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 2 and the other is optimized for fuel consumption and equivalent to U.S. EPA Tier 1 emission standards.
- Maintain a balance of power and fuel efficiency, with integrated engine control technologies that keep the engine running at or near the rated speed to deliver power to machine functions and move materials quickly and efficiently.
- Prevent engine lug with Load Enhanced Anticipatory Control (LEAC). Using available engine torque, desired and actual engine speed, and estimated hydraulic load, this anticipatory control feature reduces hydraulic pump output and saves fuel.
- 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.
- Reduce blind spots, enhance situational awareness and increase operator confidence with an optional two camera system or install a fully integrated, Vision 360 kit. Engineered for seamless integration, single and 360° surround views are displayed on a 10" (264 mm) HD touch screen.
- Support your sustainable development goals by selecting our optional Cat Bio HYDO<sup>™</sup> Advanced hydraulic fluid. Developed for use in any environment, Cat Bio HYDO Advanced provides superior performance across a wide temperature range and many applications. Unlike other biodegradable fluids, this fluid is an environmentally friendly hydraulic fluid that has the drain interval and performance of a premium mineral-based hydraulic fluid.

### **Lower Costs per Ton with Industry Leading Productivity**

- Produce the most tons per hour at a lower cost with industry leading fuel efficiency, large bucket capacity, and enhanced reliability.
- Increase operational efficiency with our Cat Proportional Priority Pressure Compensating (PPPC) hydraulic system. Based upon control lever movements, the electronic system automatically regulates flow to the implement circuit. This intelligent system varies hydraulic oil flow in direct proportion to joystick lever movement for smooth, predictable operation, and greater operator efficiency.
- Experience flow on demand with our unique four-pump system – three for implement and travel, and one for swing. Pressure and flow compensation deliver only as much flow as needed to reduce heat build-up and component wear. When flow is required by more than one function, automatic flow proportioning divides the required flow for each function to deliver precise multifunction operations.
- 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.
- Protect and extend the life of hydraulic components with our hydraulic oil cooling system. This system is independent of engine cooling and includes a hydraulically driven variable speed fan, providing cooling on demand to maintain optimum hydraulic fluid temperature and maximize fuel economy.
- Achieve targeted production with an optimized truck match to maximize volume of material moved at the lowest operating cost per ton. The Cat 6015 is optimally matched with our 773, 775, or 777 trucks.



# Cat® 6015 Hydraulic Shovel

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

- 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.
- Select M75 Hammerless tooth and adapter system to deliver improved service life. The M75 nose geometry strengthens adapters by 20% and the wear cap option extends adapter life up to 25%. Four tip options deliver the performance you need no matter the site conditions. See PEBJ0030 for all 6015 GET options.
- Experience maintenance-free positive pin retention track. These tracks are specially machined links and pins that lock the joint to a predetermined specification, preventing end-play generation and tightly controlling seal motion for long internal pin/bushing wear life, and fatigue resistance.
- Increase uptime with a more durable heavy-duty undercarriage, featuring long-life components and frame. Heavy-duty idlers incorporate duo cone seals and steel-backed bronze bearings, while heavy-duty rollers have lifetime grease and increased service life with no overheating during travel. Improvements to track pads, track tensioning, and wear volume increase durability and reliability of the undercarriage as well.
- Protect bolt heads from impact and abrasion, reduce impact from loose underfoot conditions, and improve overall undercarriage durability with a new heavy-duty protection package. A propel motor guard, propel tube guards, and slew bearing lube line protection come standard on the 6015. For additional protection, an optional propel gearcase cover guard is available. This protection package is retrofittable to extend undercarriage life of machines in the field.

## Reduce Downtime with Enhanced Serviceability

- 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.
- Diagnose and execute engine maintenance more effectively with access to Cat Electronic Technician (ET).
- Inspect, maintain, and repair the 6015 more easily with improved service documentation, new visual inspection ports for slew drive pinions and ring gear, commonization of charging ports and charging tool, and new pilot pressure monitoring via ET.
- Reduce downtime with enhanced warning levels for hydraulic oil temperature and improved data link diagnostics.

## Get Peak Operator Performance with our Operator-Focused Environment

- Promote operator comfort and ease of operation with our roomy and quiet cab. Controls are positioned within easy reach of the operator for greater control, convenience and reduced fatigue.
- Protect operators with excellent visibility through large windows, laminated front upper window, tempered glass in other windows, polycarbonate skylight with unobstructed upward view, polycarbonate rear window for emergency egress, interior sounds levels of 70.5 dB(A), and a top guard protection system 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 fully adjustable suspension seat, easily accessible electro-hydraulic servo control, rocker pedals and foot controls, and intuitive on-board electronics.
- Monitor vital machine and diagnostic data on the large, 7" (178 mm) color touchscreen for convenient troubleshooting and service assistance.
- Maintain internal ambient temperature automatically with air conditioning, heat, and defroster. Positive air pressure and improved filtration and sealing limits dust entry into the cab. Fresh air filter removes dust and particles and a second internal filter cleans recirculated air.

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

- Access, egress, and move about the machine more safely with wide and slip-resistance walkways, limited walkway elevation changes and minimized trip hazards. Quick exit from machine during emergency is facilitated by three means of egress. A powered 45° stairway is available as an option.
- 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 operator protection with protective guards on the top of the cab and an optional front guard.
- Improve machine service and maintenance safety with anti-slip walkways, grab irons, a ground-level service station, LED lights, and easily accessible emergency shut-off and isolation switches.

## Optimal Pass Match

	Cat® 773	Cat 775	Cat 777
	55.3 t (61 ton)	64 t (70.5 ton)	89.4 t (98.4 ton)
6015	4	5	7

## 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 (continued)</b>		
Cat C27 Engine	✓		Sliding upper door window and side window	✓	
Aftertreatment system (used in Tier 4 only):	✓		Removable lower windshield with in cab storage	✓	
– Diesel Oxidation Catalyst (DOC)			Independently adjustable seat consoles with integrated joysticks	✓	
– NO <sub>x</sub> Reduction System (NRS)			Neutral lever (lock out) for all controls	✓	
– Non-DEF solution			Two power outlets, 10 amp total	✓	
Hydraulically driven radiator fan	✓		Joystick controls alternate patterns (ISO/JIS, BHL, MHI, KOBE, or SCM)	✓	
Heavy-duty air filters	✓		Electronic-Hydraulic Servo Control	✓	
Dual 24 V electric starters	✓		FM/AM radio with MP3 auxiliary port	✓	
Automatic engine idle shut down	✓		Wiper/washer for lower and upper windshield	✓	
Aluminum cooling package		✓	Color LCD 7" (178 mm) touchscreen	✓	
Mesabi cooling package		✓	Fixed access ladder	✓	
<b>HYDRAULICS</b>			Powered 45° access stairway		✓
Power Management System with Integrated Controls:	✓		Heated cab mirror	✓	
– Flow-on-demand management of implement/travel (three) and swing (one) pumps			Camera monitoring system (two cameras and additional color display)		✓
– Load Enhanced Anticipatory Control (LEAC)			<b>BACKHOE ATTACHMENT</b>		
– Proportional Priority Pressure Compensating (PPPC) technology			Boom 7.6 m (24 ft 11 in)	✓	
Automatic swing holding brake	✓		Stick 3.4 m (11 ft 2 in)		✓
Pressure cut-off for main pumps	✓		Stick 4.1 m (13 ft 5 in)		✓
Closed loop swing circuit	✓		Frontless base machine (no boom, no stick, no linkage)		✓
Boom float valves and regeneration circuit	✓		Bucket wear package	✓	
<b>ELECTRICAL SYSTEM</b>			<b>CAT TECHNOLOGY</b>		
Maintenance-free batteries	✓		Cat Product Link™ Elite (Cellular)		✓
14 LED high-brightness working flood lights	✓		Cat Product Link Elite (Satellite)		✓
5 LED service lights	✓		Cat Product Link Elite (No radio)		✓
<b>UNDERCARRIAGE AND STRUCTURES</b>			Cat MineStar™ Solutions Ready	✓	
Positive Pin Retention (PPR2) sealed and greased track design	✓		<b>COLD WEATHER</b>		
HD tracks with cast double-grouser track pads	✓		Cold Weather Package (120 V)		✓
700 mm (2 ft 4 in) wide track pads		✓	Cold Weather Package (240 V)		✓
900 mm (3 ft 0 in) wide track pads		✓	<b>SERVICE AND MAINTENANCE</b>		
1000 mm (3 ft 3 in) wide track pads		✓	Engine oil exchange interval – 500 hours	✓	
Belly plate for additional undercarriage protection		✓	Hydraulic oil change interval – 5,000 hours	✓	
Track guards – full		✓	S-O-S <sup>SM</sup> sampling ports	✓	
Track guards – center		✓	Centralized service area accessible from ground level	✓	
HD fixed axle rollers	✓		Pilot pressure monitoring via Electronic Technical (ET)	✓	
HD fixed axle idlers	✓		High temperature lubricant		✓
HD undercarriage protection	✓		Cat Bio HYDO Advanced hydraulic fluid		✓
– Propel motor guard	✓		Low temperature lubricant		✓
– Propel tube guards	✓		<b>SAFETY AND SECURITY</b>		
– Slew bearing lube line protection	✓		Emergency stop switches: one in cab, three in engine module, one pull rope accessible from ground level	✓	
– Propel gearcase cover guard		✓	Operator Protective Guard (front guard)		✓
Automatic hydraulic retarder valve	✓		Operator Protective Guard (top guard)	✓	
Acoustic travel alarm (forward and reverse)	✓		Laminated front upper window and tempered glass other windows	✓	
Fully hydraulic self-adjusting track tensioning system with membrane accumulator	✓		Glass-breaking safety hammer	✓	
<b>OPERATOR ENVIRONMENT</b>			Anti-slip walkways	✓	
Single HVAC system	✓		<b>MISCELLANEOUS</b>		
Pressurized cab with positive filtration	✓		ISO or ANSI decals	✓	
Travel control pedals with removable hand levers	✓				
Pneumatically cushioned and multi adjustable comfort seat with:	✓				
– Seat heating					
– Lumbar support					
– Two-point safety belt					
– Head and arm rests					

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## Technical Specifications

### Diesel Engines – Less Regulated

Make and Model	Cat C27	
Rated Speed	1800 min <sup>-1</sup>	1,800 rpm
Gross Power – SAE J1995:2014*	606 kW	812 hp
Gross Power – SAE J1995:2014**	626 kW	839 hp

\*Equivalent to U.S. EPA Tier 1 emission standards.

\*\*Meets China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 2.

### Diesel Engines – Highly Regulated

Make and Model	Cat C27	
Rated Speed	1800 min <sup>-1</sup>	1,800 rpm
Gross Power – J1995:2014***	615 kW	824 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 × 200 Ah – 12 V each 150 A – 24 V in total	

### Operating Weights

6015 with Backhoe Attachment (BH)	140 000 kg	308,000 lb
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• Operating weight includes: base machine, front attachment, 700 mm (28 in) track pads, 8.1 m<sup>3</sup> (10.6 yd<sup>3</sup>) standard rock bucket, 100% fuel and lubricants.

### Service Refill Capacities

Fuel Tank Capacity	1700 L	449 gal
Hydraulic Oil Tank Capacity	956 L	253 gal
Total Volume of Hydraulic Oil	1752 L	463 gal
Engine Oil	87 L	23 gal
Engine Coolant	165 L	44 gal
Grease Tank Capacity	68 L	18 gal

### Hydraulic System

Maximum Flow to Main Pumps	1544 L/min	407 gal/min
Maximum Pressure – Attachment	320 bar	4,641 psi
Maximum Pressure – Travel	320 bar	4,641 psi
Maximum Flow to Swing Pumps	479 L/min	127 gal/min
Maximum Pressure – Swing	365 bar	5,294 psi

### Swing System

Swing Speed	4.9 rpm	
Swing Circuit	Closed-loop with torque control	
Swing Brake	Automatic swing holding brake	

### Undercarriage

Maximum Travel Speed – 1st Stage	2.6 km/h	1.6 mph
Maximum Travel Speed – 2nd Stage	3.7 km/h	2.3 mph
Maximum Tractive Force	877 kN	197,157 lbf
Maximum Drawbar Pull	800 kN	179,847 lbf

### Operator Environment

Operator's Eye Level – approximately	3.6 m	11 ft 8 in
Spectator Sound Power Level (L <sub>WA</sub> ) ISO 6395:2008	114 dB(A)	
Operator Sound Pressure Level (L <sub>PA</sub> ) ISO 6396:2008	70.5 dB(A)	
Operator Protective Guard (front and top guard)	ISO 10262:1998 Level II	

### Dimensions

Height Overall	4880 mm	16 ft 0 in
Height of Tracks	1800 mm	5 ft 11 in
Clearance Under Counterweight	1940 mm	6 ft 4 in
Tail Swing Radius	5180 mm	17 ft 0 in
Width Overall @ 700 mm (2 ft 4 in) standard pads	5720 mm	24 ft 8 in
Crawler Length	7000 mm	23 ft 0 in
Track Gauge	4100 mm	13 ft 5 in

### Working Ranges and Forces

<b>Boom</b>	<b>7.6 m</b>	<b>24 ft 11 in</b>	<b>7.6 m</b>	<b>24 ft 11 in</b>
<b>Stick Option</b>	<b>3.4 m</b>	<b>11 ft 2 in</b>	<b>4.1 m</b>	<b>13 ft 5 in</b>
<b>Standard Rock Bucket Heaped 1:1 (ISO 7451)</b>	<b>8.1 m<sup>3</sup></b>	<b>10.6 yd<sup>3</sup></b>	<b>7.4 m<sup>3</sup></b>	<b>9.7 yd<sup>3</sup></b>
G.E.T. System	C70/M75		C70/M75	
Maximum Tearout Force (ISO)	466 kN	104,761 lbf	404 kN	90,823 lbf
Maximum Breakout Force (ISO)	538 kN	120,947 lbf	503 kN	113,079 lbf
Maximum Digging Height	12.8 m	41 ft 11 in	13.2 m	43 ft 4 in
Maximum Digging Reach	13.9 m	45 ft 7 in	14.7 m	48 ft 3 in
Maximum Digging Depth	8.0 m	26 ft 3 in	8.8 m	28 ft 10 in
Maximum Dump Height	8.5 m	27 ft 11 in	8.6 m	28 ft 3 in

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