



# 6015

## Hydraulic Mining Shovel

# Technical Specifications

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

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# 6015 Hydraulic Mining Shovel Specifications

## Diesel Engines – Tier 1

Make and Model	Cat® C27	
Rated Speed	1800 min <sup>-1</sup>	1,800 rpm
Gross Power – SAE J1995:2014	606 kW	812 hp
Net Power – ISO 9249:2007	599 kW	803 hp
Number of Cylinders (each engine)	12	
Bore	137.2 mm	5.4 in
Stroke	152.4 mm	6.0 in
Displacement	27 L	1,648 in <sup>3</sup>
Aspiration	Turbocharged and air-to-air aftercooled	

- Equivalent to U.S. EPA Tier 1 emission standards.
- 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 – Tier 2 (China Nonroad Stage III)

Make and Model	Cat C27	
Rated Speed	1800 min <sup>-1</sup>	1,800 rpm
Gross Power – SAE J1995:2014	626 kW	839 hp
Net Power – ISO 9249:2007	618 kW	829 hp
Number of Cylinders (each engine)	12	
Bore	137.2 mm	5.4 in
Stroke	152.4 mm	6.0 in
Displacement	27 L	1,648 in <sup>3</sup>
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 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 – Tier 4 Final

Make and Model	Cat C27	
Rated Speed	1800 min <sup>-1</sup>	1,800 rpm
Gross Power – SAE J1995:2014	615 kW	824 hp
Net Power – ISO 9249:2007	606 kW	812 hp
Number of Cylinders (each engine)	12	
Bore	137.2 mm	5.4 in
Stroke	152.4 mm	6.0 in
Displacement	27 L	1,648 in <sup>3</sup>
Aspiration	Turbocharged and air-to-air aftercooled	

- Meets U.S. EPA Tier 4 Final and EU Stage V emission standards.
- 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 × 200 Ah – 12 V each 150 A – 24 V in total

## Operating Weights

6015 with Backhoe Attachment (BH)		
Standard Track Pads	700 mm	2 ft 4 in
Operating Weight*	140 000 kg	308,000 lb
Ground Pressure	16.3 N/cm <sup>2</sup>	23.6 psi

\*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.

# 6015 Hydraulic Mining Shovel Specifications

## 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
Both Swing Drives and Reservoir	38 L	10 gal
Travel Gearbox	2 × 20 L	2 × 5.3 gal
Grease Tank Capacity	68 L	18 gal

## Hydraulic System

Main Pumps	3 × variable swash plate pumps	
Maximum Oil Flow	1544 L/min	407 gal/min
Maximum Pressure, Attachment	320 bar	4,641 psi
Maximum Pressure, Travel	320 bar	4,641 psi
Swing Pumps	1 × variable swash plate pumps	
Maximum Oil Flow	479 L/min	127 gal/min
Maximum Pressure	365 bar	5,294 psi

## Hydraulic Oil Cooling

Maximum Oil Flow of Cooling Pumps	1075 L/min	284 gal/min
Number of Fans	2	
Diameter of Fans	1016 mm	40 in
Fan Speed	Thermostatically controlled	
Cooling System	Fully independent	

## Swing System

Swing Drives	Two compact planetary transmissions with axial piston motors
Parking Brake	Wet multiple-disc brake, spring-loaded/hydraulically released
Maximum Swing Speed	4.9 rpm
Swing Ring	Cross roller bearing with sealed internal gearing
Swing Circuit	Closed-loop with torque control

## Undercarriage

Travel Speed (two stages)		
1st Stage – Maximum	2.6 km/h	1.6 mph
2nd Stage – Maximum	3.7 km/h	2.3 mph
Maximum Tractive Force	877 kN	197,157 lbf
Maximum Drawbar Pull	800 kN	179,847 lbf
Gradeability of Travel Drives – SAE J1309	38°/78% approximate	
Maximum Machine Inclination – Travel	23°/42%	
Track Pads (each side)	46	
Track Rollers (each side)	9	
Carrier Rollers (each side)	3	
Travel Drives (each side)	Planetary transmission with two-stage axial piston motor	
Parking Brake	Wet multiple disc brake, spring loaded/hydraulically released	

## Operator Environment

Operator's Eye Level ISO 3411:2007	3.56 m	11 ft 8 in
Spectator Sound Power Level (L <sub>WA</sub> ) ISO 6395:2008*	114.0 dB(A)	
Operator Sound Pressure Level (L <sub>WA</sub> ) ISO 6396:2008*	70.5 dB(A)	
Operator Protective Guard (front and top guard)	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 2.1 kg (4.63 lb) of refrigerant, which has a CO<sub>2</sub> equivalent of 3.003 t (3.3102 U.S. tons) per engine.

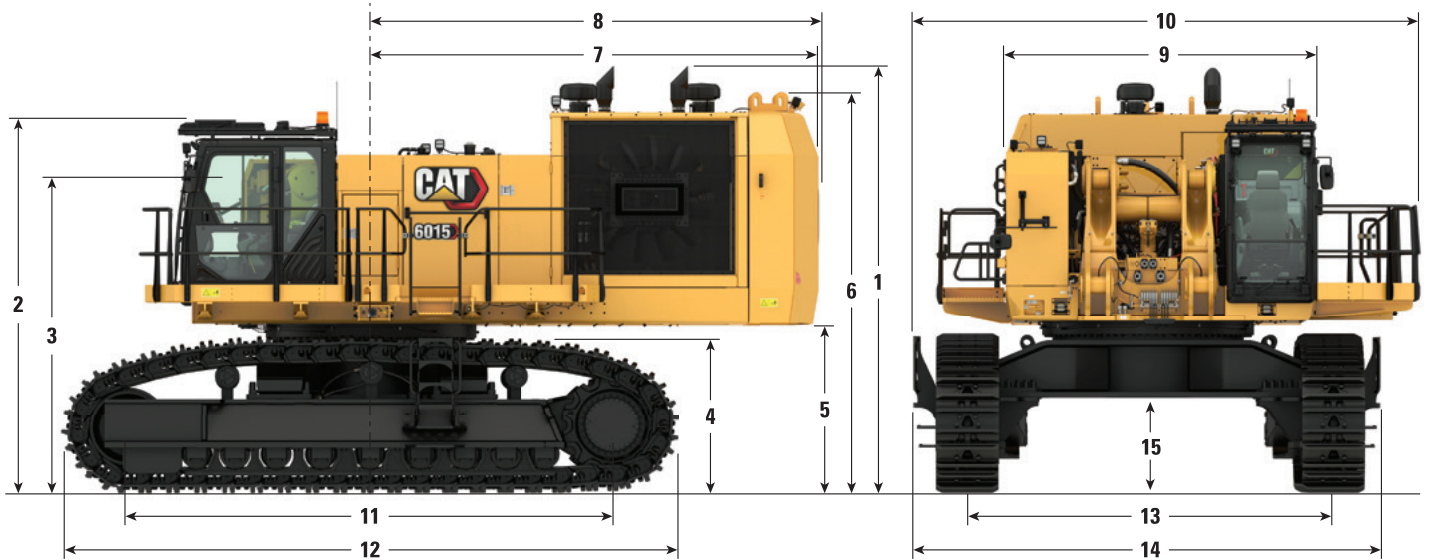
## Optimal Pass Match with Cat Trucks

	773	775	777
Cat 6015	4	5	7

# 6015 Hydraulic Mining Shovel Specifications

## Base Unit Dimensions

All dimensions are approximate.



**3.4 m (11 ft 2 in)**

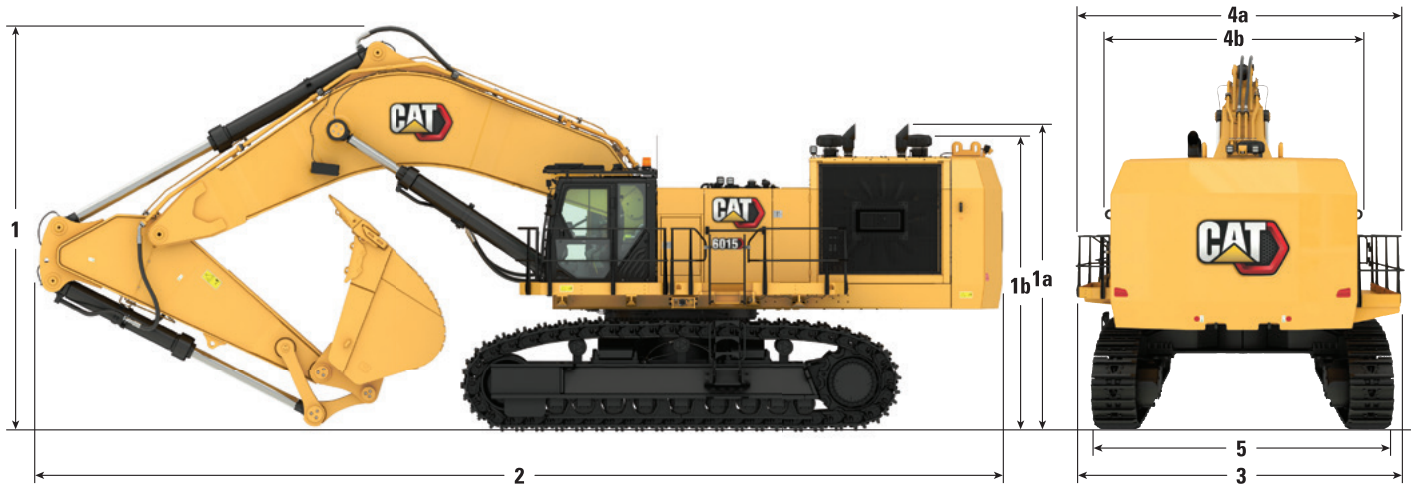
<b>1</b> Height Overall	4880 mm	16 ft 0 in
<b>2</b> Height Top of Rock Guard	4250 mm	13 ft 11 in
<b>3</b> Operator Eye Level*	3560 mm	11 ft 8 in
<b>4</b> Height of Tracks	1800 mm	5 ft 11 in
<b>5</b> Clearance Under Counterweight	1940 mm	6 ft 4 in
<b>6</b> Height to Top of Counterweight	4570 mm	15 ft 0 in
<b>7</b> Tail Overhang	5120 mm	16 ft 10 in
<b>8</b> Tail Swing Radius	5180 mm	17 ft 0 in
<b>9</b> Width of Counterweight	3780 mm	12 ft 5 in
<b>10</b> Width Overall @ 700 mm (2 ft 4 in)	5689 mm	18 ft 8 in
<b>11</b> Length from Sprocket Center to Idler Center	5520 mm	18 ft 2 in
<b>12</b> Crawler Length	7000 mm	23 ft 0 in
<b>13</b> Track Gauge	4100 mm	13 ft 5 in
<b>14</b> Width of Undercarriage	5310 mm	17 ft 5 in
<b>15</b> Ground Clearance Under Carbody Frame	1080 mm	3 ft 7 in

\*Per ISO 3411, using the moderate operator dimensions.

# 6015 Hydraulic Mining Shovel Specifications

## Shipping Dimensions

All dimensions are approximate.



**With 3.4 m (11 ft 2 in) Stick**

**With 4.1 m (13 ft 5 in) Stick**

### 1 Machine Height:

With Boom/Stick/Bucket Installed	6400 mm	23 ft 0 in	6770 mm	22 ft 3 in
With Boom/Stick Installed	5920 mm	19 ft 5 in	6250 mm	20 ft 6 in
With Boom Installed	4780 mm	15 ft 8 in	4780 mm	15 ft 8 in
<b>1a</b> Height Exhaust Pipes	4880 mm	16 ft 0 in	4880 mm	16 ft 0 in
<b>1b</b> Height Air Cleaners	4700 mm	15 ft 5 in	4700 mm	15 ft 5 in

### 2 Machine Length:

With Boom/Stick/Bucket Installed	15 340 mm	50 ft 4 in	15 200 mm	49 ft 10 in
With Boom/Stick Installed	15 160 mm	49 ft 9 in	15 190 mm	49 ft 10 in
With Boom Installed	12 900 mm	42 ft 4 in	12 900 mm	42 ft 4 in

### 3 Machine Width

5689 mm	18 ft 8 in	5689 mm	18 ft 8 in
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### 4 Upperframe Width:

<b>4a</b> With Walkways	5430 mm	17 ft 10 in	5430 mm	17 ft 10 in
<b>4b</b> Without Walkways	3780 mm	12 ft 5 in	3780 mm	12 ft 5 in

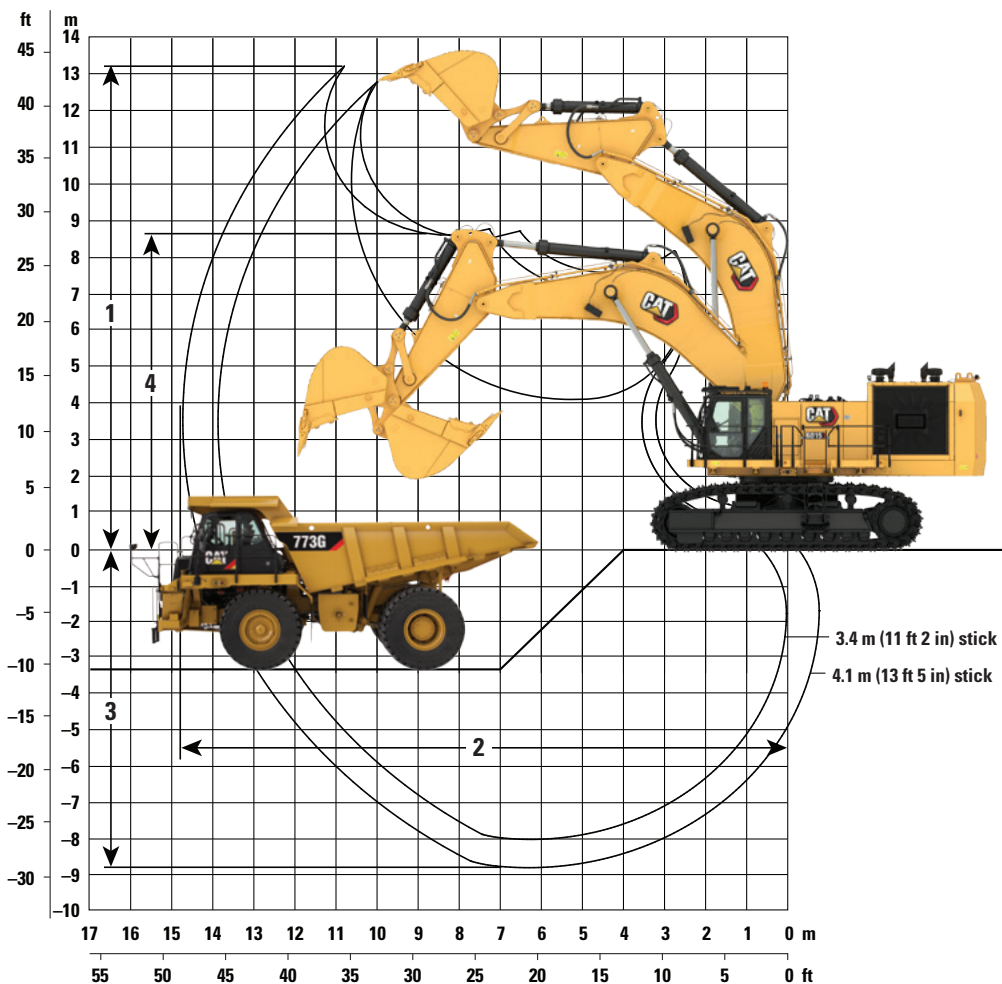
### 5 Undercarriage Width

5310 mm	17 ft 5 in	5310 mm	17 ft 5 in
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# 6015 Hydraulic Mining Shovel Specifications

## Working Range

All dimensions are approximate. Additional bucket capacities and wear packages are available upon request.



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

# 6015 Hydraulic Mining Shovel Specifications

## Bucket Specifications and Compatibility

Additional bucket capacities and wear packages are available upon request.

### Backhoe Bucket Options

Classification	Capacity		Total Outside Width		Inner Width		Weight*		GET System	Tips #	Wear Package Type	Nominal Material Density**			
												3.4 m (11 ft 2 in) Stick		4.1 m (13 ft 5 in) Stick	
	m <sup>3</sup>	yd <sup>3</sup>	mm	in	mm	in	kg	lb	t/m <sup>3</sup>	lb/yd <sup>3</sup>	t/m <sup>3</sup>	lb/yd <sup>3</sup>			
Heavy Rock	5.8	7.6	2154	84.8	1762	69.4	7166	15,798	C70	4	Extreme Duty	2.70	4,570	1.90	3,230
Light Rock	7.4	9.7	2306	91.0	1964	77.3	6134	13,523	C70	4	General Duty	2.20	3,770	1.65	2,760
Heavy Rock	7.4	9.7	2682	105.6	2294	90.3	8313	18,327	C70	5	Extreme Duty	1.95	3,270	1.35	2,270
Standard Rock	8.1	10.6	2682	105.6	2294	90.3	7557	16,660	C70	5	Heavy Duty	1.90	3,230	1.30	2,240
Standard Rock	8.1	10.6	2682	105.6	2294	90.3	8401	18,521	C70	5	Extreme Duty	1.80	3,030	1.20	2,060
Light Rock	8.6	11.2	2682	105.6	2294	90.3	8753	19,297	C70	5	Heavy Duty	1.65	2,760	1.10	1,870
Light Rock	8.9	11.6	2682	105.6	2294	90.3	8130	17,924	C70	5	Heavy Duty	1.65	2,760	1.10	1,870
Coal	10.4	13.6	3040	120.0	2841	111.9	7193	15,858	K150	8	General Duty	1.50	2,540	1.10	1,870
Coal	12.0	15.7	3040	120.0	2841	111.9	8228	18,139	X150	8	General Duty	1.20	2,060	0.80	1,430

\*Excluding tips.

\*\*At 100% fill factor.

# 6015 Standard and Optional Equipment

## 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>		
Cat C27 Engine	✓		Four maintenance-free batteries	✓	
Aftertreatment system (used in Tier 4 Final only):	✓		Lockable battery isolator switch	✓	
– Diesel Oxidation Catalyst (DOC)			14 LED high-brightness working flood lights	✓	
– NO <sub>x</sub> Reduction System (NRS)			5 LED service lights	✓	
– Non-DEF solution			Two electric horns	✓	
Air-to-Air After Cooling (ATAAC)	✓		<b>UNDERCARRIAGE</b>		
Turbocharger	✓		Positive Pin Retention (PPR2) sealed and greased track design	✓	
Hydraulically driven radiator fan	✓		HD tracks with cast double-grouser track pads	✓	
Electronically controlled fan speed	✓		700 mm (2 ft 4 in) wide track pads		✓
Micro processed engine management	✓		900 mm (3 ft 0 in) wide track pads		✓
Heavy-duty air filters	✓		1000 mm (3 ft 3 in) wide track pads		✓
Two stage fuel filtration with water separator	✓		Belly plate for additional undercarriage protection		✓
Starting aid – automatic ether	✓		Track guards – full		✓
Exhaust system heat shields	✓		Track guards – center		✓
Dual 24 V electric starters	✓		HD fixed axle rollers	✓	
Automatic engine idle shut down	✓		HD fixed axle idlers	✓	
Aluminum cooling package		✓	HD undercarriage protection:		
Mesabi cooling package		✓	– Propel motor guard	✓	
<b>HYDRAULICS</b>			– Propel tube guards	✓	
Power Management System with integrated controls:	✓		– Slew bearing lube line protection	✓	
– Flow-on-demand management of implement/travel (3) and swing (1) pumps			– Propel gearcase cover guard		✓
– Load Enhanced Anticipatory Control (LEAC) to prevent engine lug			Automatic hydraulic retarder valve	✓	
– Proportional Priority Pressure Compensating (PPPC) technology prioritizes pump flow and pressure to individual functions (boom, stick, and bucket) during simultaneous operations			Acoustic travel alarm (forward and reverse)	✓	
Pressure cut-off for main pumps	✓		Travel motor covers with service doors	✓	
Cooling of pump transmission gear oil	✓		Hardened running surfaces of sprockets, idlers, rollers and track chain links	✓	
Closed loop swing circuit	✓		Fully hydraulic self-adjusting track tensioning system with accumulator	✓	
Automatic swing holding brake	✓		<b>AUTOMATIC LUBRICATION SYSTEM</b>		
Pressure testing points	✓		Grease container, 68 L (18 gal) capacity	✓	
Full-flow high-pressure filters (200 µm), main pumps	✓		Grease is automatically applied to all attachment pivot points and slew bearing (except bucket linkage)	✓	
Full-flow filters (20 µm), return circuit	✓				
Full-flow filters (6 µm), cooling return circuit	✓				
Pressure filters (16 µm), servo circuit	✓				
Swing charge filters (15 µm)	✓				
Pump case return screens (125 µm)	✓				
Boom float valves and regeneration circuit	✓				

(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>OPERATOR ENVIRONMENT</b>			<b>BACKHOE ATTACHMENT</b>		
Single HVAC system	✓		Boom 7.6 m (24 ft 11 in)	✓	
Pressurized cab with positive filtration	✓		Stick 3.4 m (11 ft 2 in)		✓
Travel control pedals with removable hand levers	✓		Stick 4.1 m (13 ft 5 in)		✓
Pneumatically cushioned and multi adjustable comfort seat with:	✓		Frontless base machine (no boom, no stick, no linkage)		✓
– Seat heating			Boom and stick thermally stress relieved after welding	✓	
– Lumbar support			Bucket wear package	✓	
– Two-point safety belt			<b>CAT TECHNOLOGY</b>		
– Head and arm rests			Cat Product Link™ Elite (Cellular)		✓
Sliding upper door window	✓		Cat Product Link Elite (Satellite)		✓
Removable lower windshield with in cab storage	✓		Cat Product Link Elite (No radio)		✓
Independently adjustable seat consoles with integrated joysticks	✓		Cat MineStar™ Solutions Ready	✓	
Neutral lever (lock out) for all controls	✓		<b>COLD WEATHER</b>		
Two power outlets, 10 amp total			Cold Weather Package (120 V):		✓
Electronic-Hydraulic Servo Control	✓		– Fuel preheater		
Joystick controls alternate patterns (ISO/JIS, BHL, MHI, KOBE, or SCM)	✓		– Engine coolant heater		
FM/AM radio with MP3 auxiliary port	✓		– External power source required, 60 Hz		
Sliding side window	✓		Cold Weather Package (240 V):		✓
Wiper/washer for lower and upper windshield	✓		– Fuel preheater		
Roller blind at windshield	✓		– Engine coolant heater		
Color LCD 7" (178 mm) touchscreen display includes:	✓		– External power source required, 50 Hz		
– Service parameters for engine, hydraulics, and lubrication					
– Event and diagnostic annunciation					
– Gauges for engine speed, engine oil pressure, hydraulic oil temperature					
– Preventative maintenance					
– Trip total					
– Lifetime totals					
Fixed access ladder	✓				
Powered 45° access stairway		✓			
Heated cab mirror	✓				
Camera monitoring system (two cameras and additional color display)		✓			
Document storage	✓				

*(continued on next page)*

# 6015 Standard and Optional Equipment

## Standard and Optional Equipment *(continued)*

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

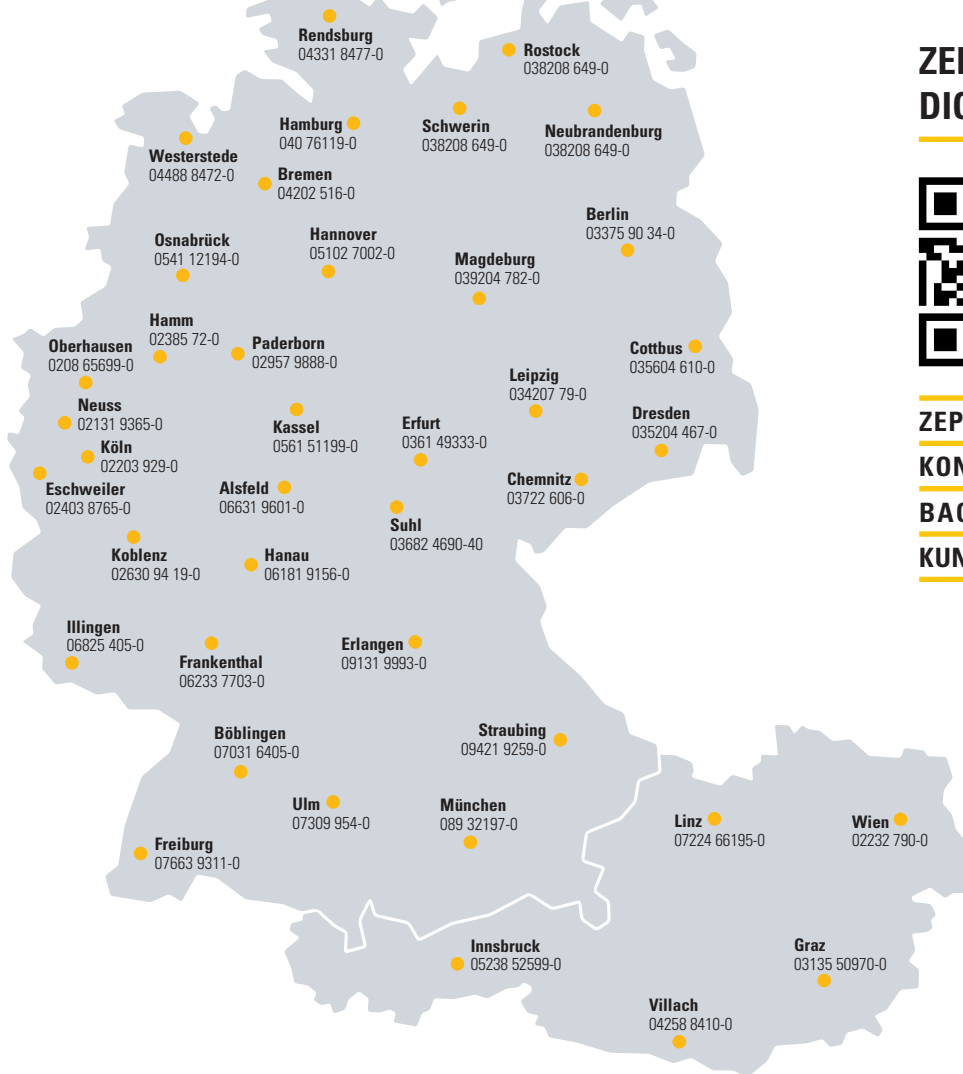
	Standard	Optional		Standard	Optional
<b>SERVICE AND MAINTENANCE</b>			<b>SAFETY AND SECURITY</b>		
Engine oil exchange interval – 500 hours	✓		Emergency stop switches: one in cab, three in engine module, one pull rope accessible from ground level	✓	
Hydraulic oil change interval – 5,000 hours	✓		Operator Protective Guard (front guard)		✓
Final and swing drive maintenance interval (500 hours)	✓		Operator Protective Guard (top guard)	✓	
S·O·S <sup>SM</sup> sampling ports	✓		Laminated front upper window and tempered glass other windows	✓	
Pilot pressure monitoring via Electronic Technician (ET)	✓		Glass-breaking safety hammer	✓	
Centralized service area accessible from ground level for:	✓		<b>MISCELLANEOUS</b>		
– Diesel fuel			ISO or ANSI decals	✓	
– Grease					
Cat battery charging connector	✓				
Indicator light for grease	✓				
Cat Bio HYDO™ Advanced hydraulic fluid		✓			
High temperature lubricant		✓			
Standard lubricant		✓			
Low temperature lubricant		✓			
Jump start receptacle	✓				

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AEXQ3041 (07-2021)  
Build Number: 04B  
(Global)

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