

# PRODUCT SPECIFICATIONS FOR 6015



## GENERAL

Engine Output - SAE J1995	615 kW
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Bucket Payload	14.6 t
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Operating Weight	140 t
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**Note** Specifications shown above apply to highly regulated, backhoe configuration. Lesser regulated and frontless configurations are also available.

## ENGINE - U.S. EPA TIER 4 FINAL

Engine Model	Cat® C27
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Gross Power - SAE J1995	615 kW
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Net Power - SAE J1349	556 kW
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## ENGINE - CAT C27 WITH TIER 4 FINAL EMISSION STANDARDS

Number of Cylinders	12
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Bore	137.2 mm
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Stroke	152.4 mm
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Displacement	27 l
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## ENGINE - EQUIVALENT TO U.S. EPA TIER 2

Engine Model	Cat® C27
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Gross Power - SAE J1995	626 kW
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Net Power - SAE J1349	556 kW
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# ENGINE - CAT C27 WITH TIER 1 OR TIER 2 EQUIVALENT EMISSION STANDARDS

Number of Cylinders	12
Bore	137.2 mm
Stroke	152.4 mm
Displacement	27 l
Aspiration	Turbocharged and air-to-air aftercooled

## OPERATING WEIGHTS - BACKHOE

Operating Weight	140 t
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## WEIGHTS

Ground Pressure	16.3 N/cm <sup>2</sup>
Note	Operating weight includes: 700 mm (28 in) track shoes, 7.6 m (24 ft 11 in) boom, 3.4 m (11 ft 2 in) stick, standard rock bucket, 100% fuel and lubricants
Operating Weight	140,000 kg

## TRACK

Standard	700 mm
Wide	900 mm
Extra Wide	1000 mm
Number of Shoes - Each Side	46
Number of Track Rollers - Each Side	9

<b>Number of Carrier Rollers - Each Side</b>	3
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<b>Track Pads</b>	Double grouser
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## **DRIVE**

<b>Travel Speed - Two Stages - 1st Stage - Maximum</b>	2.3 km/h
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<b>Travel Speed - Two Stages - 2nd Stage - Maximum</b>	3.3 km/h
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<b>Maximum Drawbar Pull - Forward</b>	858 kN
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<b>Maximum Drawbar Pull - Reverse</b>	983 kN
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<b>Gradeability - Travel Drives</b>	Approximately 42%
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<b>Hydraulic Track Tensioning</b>	With accumulator
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<b>Maximum Drawbar Pull</b>	800 kN
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## **SERVICE REFILL CAPACITIES**

<b>Fuel Tank</b>	1700 l
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<b>Cooling System</b>	165 l
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<b>Engine Oil</b>	87 l
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<b>Swing Drive</b>	9 l
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<b>Hydraulic System - Including Tank</b>	1752 l
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<b>Hydraulic Tank</b>	956 l
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<b>Grease Tank</b>	68 l
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## **ELECTRICAL SYSTEM**

<b>System Voltage</b>	24 V
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<b>Batteries</b>	4 × 200 Ah (12 V each)
<b>Alternator Rating</b>	150 A (24 V) in total
<b>Components (1)</b>	Emergency stop in cabin, engine module, pump room and on service station accessible from ground level
<b>Components (2)</b>	Four maintenance free batteries
<b>Components (3)</b>	Lockable battery isolation switch
<b>Components (5)</b>	14 LED high-brightness working lights
<b>Components (4)</b>	5 LED service lights
<b>Components (6)</b>	2 electric horns
<b>Components (7)</b>	Two (2) lights for rear end
<b>Components (9)</b>	One (1) beacon light on cabin roof
<b>Components (8)</b>	One (1) light for machine deck/service

## HYDRAULIC SYSTEM

<b>Main Pumps</b>	3 × variable swash plate pumps
<b>Main Pumps - Maximum Total Oil Flow</b>	1544 l/min
<b>Main Pumps - Maximum Pressure - Attachment</b>	320 bar
<b>Pilot Pump</b>	1 × gear pump
<b>Pilot Pump - Maximum Flow, Pilot</b>	153 l/min
<b>Pilot Pump - Maximum Pressure, Pilot</b>	95 bar
<b>Main Pumps - Maximum Pressure - Travel</b>	320 bar

<b>Swing Pump</b>	1 × variable swash plate pump
<b>Engine Fan Pump - Maximum Flow, Engine Fan</b>	201 l/min
<b>Engine Fan Pump - Maximum Pressure, Engine Fan</b>	220 bar
<b>Engine Fan Pump</b>	1 × variable swash plate pump
<b>Hydraulic Fan Pump - Maximum Flow, Hydraulic Fan</b>	86 l/min
<b>Swing Pump - Maximum Flow - Swing</b>	479 l/min
<b>Hydraulic Fan Pump</b>	1 × variable swash plate pump
<b>Hydraulic Fan Pump - Maximum Pressure, Hydraulic Fan</b>	135 bar
<b>Swing Pump - Maximum Pressure - Swing</b>	365 bar
<b>Hydraulic Oil Cooling - Maximum Flow</b>	1075 l/min
<b>Hydraulic Oil Cooling - Diameter of Fan</b>	1016 mm
<b>Filters (1)</b>	Full-flow high-pressure filters (200 µm) for main pumps
<b>Filters (2)</b>	Full-flow filters (20 µm) for complete return circuit
<b>Filters (3)</b>	Pressure filters (16 µm) for servo circuit
<b>Filters (4)</b>	Full-flow filters (6 µm) for engine cooling return circuit
<b>Filters (5)</b>	Swing charge filter (15 µm)
<b>Filters (6)</b>	Pump case return screens (125 µm)

# SWING SYSTEM

<b>Swing Drive</b>	Two (2) compact planetary transmissions with axial piston motors
<b>Parking Brake</b>	Wet multiple disc brake, spring-loaded/hydraulically released
<b>Maximum Swing Speed</b>	4.9 r/min
<b>Swing Ring</b>	Cross roller bearing with sealed internal gearing
<b>Features (1)</b>	Closed-loop swing circuit with speed control
<b>Features (2)</b>	Hydraulic braking of swing motion when control is returned to neutral position or by counteracting control for stronger braking
<b>Features (3)</b>	All raceways and the internal gearing of swing ring supplied by automatic central lubrication system

# ENGINE

<b>Emissions</b>	U.S. EPA Tier 4 Final and EU Stage V; China Nonroad Stage III, equivalent to U.S. EPA Tier 2; Equivalent to U.S. EPA Tier 1
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# CENTRALIZED SERVICE AREA

<b>Feature</b>	Accessible from ground level
<b>Equipped With (1)</b>	Emergency stop
<b>Equipped With (2)</b>	Quick couplings for: Diesel fuel and Grease

# UNDERCARRIAGE

<b>Travel Speed - Two Stages - 1st Stage - Maximum</b>	2.6 km/h
<b>Travel Speed - Two Stages - 2nd Stage - Maximum</b>	3.7 km/h
<b>Maximum Drawbar Pull - Forward</b>	858 kN

<b>Maximum Tractive Force</b>	877 kN
<b>Maximum Drawbar Pull - Reverse</b>	983 kN
<b>Gradeability - Travel Drives</b>	38°/78% (SAE J1309)
<b>Hydraulic Track Tensioning</b>	With accumulator
<b>Number of Shoes - Each Side</b>	46
<b>Number of Track Rollers - Each Side</b>	9
<b>Number of Carrier Rollers - Each Side</b>	3
<b>Components (1)</b>	Forged double-grouser track pads
<b>Components (2)</b>	Chain links connected by hardened pins and bushings
<b>Components (3)</b>	Positive Pin Retention (PPR2) sealed and greased track design
<b>Components (4)</b>	All running surfaces of sprockets, idlers, rollers and track chain links hardened
<b>Components (5)</b>	Fully hydraulic self-adjusting track tensioning system with accumulator
<b>Components (6)</b>	Automatic hydraulic retarder valve to prevent overspeed on downhill travel
<b>Components (7)</b>	Audible travel alarm

## OPERATOR'S CAB

<b>Components (1)</b>	Pressurized operator station with positive filtration
<b>Components (2)</b>	Heated cab mirror
<b>Components (3)</b>	Sliding upper door window (left-hand cab door)

<b>Components (4)</b>	Glass-breaking safety hammer
<b>Components (5)</b>	Removable lower windshield with in cab storage bracket
<b>Components (6)</b>	Joystick Controls Alternate Patterns including ISO/JIS, BHL, MHI, KOBE, or SCM
<b>Components (7)</b>	Beverage holder
<b>Components (8)</b>	Literature holder
<b>Components (9)</b>	AM/FM radio
<b>Components (10)</b>	Radio with MP3 auxiliary audio port
<b>Components (11)</b>	Two stereo speakers
<b>Components (12)</b>	Storage shelf suitable for lunch or toolbox
<b>Components (13)</b>	Color LCD display with warning, filter/fluid change, and working hour information
<b>Components (14)</b>	Adjustable armrest
<b>Components (15)</b>	Height-adjustable joystick consoles
<b>Components (16)</b>	Neutral lever (lock out) for all controls
<b>Components (17)</b>	Travel control pedals with removable hand levers
<b>Components (18)</b>	Two power outlets, 10 amp (total)
<b>Components (19)</b>	Laminated glass front upper window and tempered other windows

## **AUTOMATIC LUBRICATION SYSTEM**

<b>Capacity - Grease Barrel</b>	68 l
<b>Type (1)</b>	Central bank lubrication system



**Type (2)** Grease is automatically applied to all attachment pivot points (except bucket linkage) and slew bearing

**Type (3)** Standard grease reel on machine for bucket linkage

**Type (4)** Grease refill service point accessible from ground

## ATTACHMENTS

**Type (1)** Boom and stick torsion-resistant with welded box design

**Type (2)** High-tensile steel with solid steel castings at pivot areas

**Type (3)** Boom and stick stress-relieved after welding

**Type (4)** Float valve for boom down function

**Buckets Equipped With** – Special liner material covering main wear areas inside and outside – Lip shrouds – Wing shrouds – Heel shrouds

## BACKHOE ATTACHMENT (BH) - WORKING RANGE

**Maximum Digging Depth** 8 m

**Maximum Digging Reach** 13.9 m

**Maximum Digging Height** 12.8 m

**Maximum Dump Height** 8.5 m

## BACKHOE ATTACHMENT (BH) - DIGGING FORCES

**Bucket Digging Force - ISO** 538 kN

**Bucket Digging Force - SAE** 501 kN

**Stick Digging Force - ISO** 466 kN

**Stick Digging Force - SAE** 439 kN

## BACKHOE ATTACHMENT (BH) - BACKHOE

<b>Capacity 1:1</b>	8.1 m <sup>3</sup>
<b>Total Width</b>	2682 mm
<b>Number of Teeth</b>	5
<b>Tooth System</b>	Cat C70 or M75
<b>Weight - Including Standard Wear Package</b>	8401 kg
<b>Maximum Material Density - Loose</b>	1.8 t/m <sup>3</sup>

## 6015 STANDARD EQUIPMENT

### CAT POWERTRAIN

2 x Cat 3512E engines

Aftertreatment System (used in highly regulated countries only): – Diesel Oxidation Catalysts (DOCs) – Non DEF solution

Air-to-Air After Cooling (ATAAC)

Turbocharger

Hydraulically driven radiator fan

Electronically controlled fan speed

Micro processed engine management

Heavy-duty air filters

Two-stage fuel filter with series filtration

High-capacity water separator

Starting aid -- automatic ether

Exhaust manifold and turbo heat shields

Dual 24 V electric starters per engine

Automatic engine idle shut down

Automatic fuel priming

### HYDRAULICS

Hydraulic Optimization

Operator Assist: Enhanced Motion Control

Cat Hydraulic Hose assemblies

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

Pressure cut-off for main pumps

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)

## **ELECTRICAL SYSTEM**

6 Maintenance-free batteries  
Lockable battery isolator switch  
Lockable starter isolator switch  
13 LED high-brightness working flood lights  
17 LED service lights  
2 acoustic travel alarms – forward and reverse (power module, oil cooler module)  
2 electric horns (1 cab module, 1 oil cooler module)

## **UNDERCARRIAGE**

HD tracks with cast double-grouser track pads  
1400 mm (4'7") wide track pads  
HD fixed axle carrier and load rollers  
HD fixed axle idlers  
Automatic hydraulic retarder valve  
Hinged travel motor covers  
Hardened running surfaces of sprockets, idlers, rollers, pad links, teeth contact areas  
Fully hydraulic self-adjusting track tensioning system with piston accumulators

## **AUTOMATIC LUBRICATION SYSTEM**

Rectangular grease container (fill via service station)  
Lubricated pinion in swing ring  
Grease filters (200 µm)

## **OPERATOR ENVIRONMENT**

Single hydraulically driven HVAC system  
In-floor window with removable grate  
Pneumatically cushioned and multiadjustable comfort seat with: – Heating and cooling – Lumbar support -  
2-point safety belt – Head and arm rests – Safety switch for automatic motion shutdown  
Independently adjustable seat consoles with integrated joysticks  
Electronic-Hydraulic Servo Control  
Elevated full-size trainer seat with 2-point safety belt and laptop desk  
Additional fold-away auxiliary seat with 2-point safety belt  
Three cup holders  
FM/AM radio with USB and AUX input  
Parallel intermittent wiper/washer  
Roller blinds  
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

## **FRONT ATTACHMENT**

Service access holes from both sides in boom and stick (FS and BH)

Boom and stick thermally stress relieved after welding

Catwalks with rails at boom (FS and BH)

Wear Package (as per bucket selection)

## **CAT TECHNOLOGY**

Cat Product Link™ Elite (Cellular)

Cat MineStar™ Solutions Ready

## **SERVICE AND MAINTENANCE**

Engine oil exchange interval -- 500 hours

Hydraulic oil change interval – 10,000 hours

Scheduled Oil Sampling (S·O·SSM) 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

Indicator lights

Cat Electronic Technician service port

Dirt wiper at swivel

## **SAFETY AND SECURITY**

Emergency stop switches: 2 in cab, 5 in engine module, 1 at ground level service station, 1 pull rope accessible from ground level

Operator Protective Guard (Top Guard)

All-round safety glass

Emergency egress ladder

## **MISCELLANEOUS**

ISO or ANSI decals

## **6015 OPTIONAL EQUIPMENT**

### **UNDERCARRIAGE**

Track guards – full length

Track guards – center

Track width: – Standard – 700 mm (28 in) – Wide – 900 mm (36 in) – Extra Wide – 1000 mm (39 in)

## **COLD WEATHER OPTIONS**

Starting aid – cold weather

120 V or 240 V cold weather package

Fuel heater

Heated cab mirror

Lubricant options include: low temperature, high temperature, and Cat Bio HYDO Advanced

## **SUPERSTRUCTURE**

Copper Mesabi or aluminum bar plate engine cooling packages

LED working lights

Powered 45° access stairway

Camera Monitoring System (2 cameras and additional color display)

## **CAB**

Operator Protective Guard (Front Guard)

Product Link Elite radio options (Cellular, Satellite, No Radio)

## **ATTACHMENT**

3.4 m (11 ft 2 in) or 4.1 (13 ft 5 in) stick

## **BUCKETS**

Additional buckets available, based on application, through your local Cat dealer