

Product Specifications For 824



Engine

Engine Model	Cat® C15
Net Power - SAE J1349:2011	302 kW
Rated Speed	1800 r/min
Net Power - ISO 9249:2007	302 kW
Engine Power - ISO 14396:2002	318 kW
Gross Power - SAE J1995:2014	324 kW
Peak Net Torque (1,300 rpm)	2005 N·m
Torque Rise	33%
Maximum Altitude without Derating (U.S. EPA Tier 4 Final/EU Stage V)	2834 m
Maximum Altitude without Derating (U.S. EPA Tier 3/EU Stage IIIA)	2773 m
Bore	137.2 mm
Stroke	171.4 mm
Displacement	15.2 l
High Idle Speed	2300 r/min
Low Idle Speed	800 r/min

Note (1)	Net power advertised is the power available at the engine flywheel when the engine is equipped with a fan, air cleaner, clean emissions module and alternator.
Note (2)	Two engine emission configurations are available. One meets U.S. EPA Tier 4 Final, EU Stage V, Korea Stage V, and Japan 2014 emissions standards. The other meets Brazil MAR-1 emission standards, emitting equivalent to U.S. EPA Tier 3 and EU Stage IIIA.

Operating Specifications

Operating Weight – Straight Blade (Tier 4 Final/Stage V)	34004 kg
Blade Capacity Range	5.1-16.2 m3 (6.6-21.2 yd3)

Transmission

Transmission Type	Cat planetary - powershift - ECPC
Forward - 1	6.1 km/h
Forward - 2	11.1 km/h
Forward - 3	19.6 km/h
Forward - 4	34.8 km/h
Reverse - 1	7 km/h
Reverse - 2	12.6 km/h
Reverse - 3	22.4 km/h
Reverse - 4	39.7 km/h

Hydraulic System - Lift/Tilt

Pump Flow at 1,800 rpm	117 L/min
Main Relief Pressure	26000 kPa

Maximum Supply Pressure	24100 kPa
Cylinders, Double Acting - Lift, Bore and Stroke	120 mm × 1070 mm (4.7 in × 42.1 in)
Cylinder, Double Acting - Tilt and Tip, Bore and Stroke	140 mm × 230 mm (5.5 in × 9.1 in)

Hydraulic System - Steering

Steering System - Circuit	Pilot operated, load sensing
Bore	114.3 mm
Stroke	576 mm
Steering System - Pump	Variable displacement piston
Max Flow at 1,800 rpm	170 L/min
Relief Valve Setting - Steering	24000 kPa
Vehicle Articulation Angle	86°

Service Refill Capacities

Cooling System	116 l
Engine Crankcase	34 l
Transmission	66 l
Fuel Tank	782 l
Diesel Exhaust Fluid Tank (For Tier 4 Final/Stage V Only)	32 l
Differential - Final Drives - Front	100 l

Differential - Final Drives - Rear	110 l
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Hydraulic Tank Only	134 l
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Hydraulic System - Implement/Steering	214 l
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Note (1)

All nonroad Tier 4 Final, EU Stage V, and Japan 2014 (Tier 4 Final) diesel engines are required to use: – Ultra low sulfur diesel (ULSD) fuels containing 15 ppm (mg/kg) sulfur or less. – Cat engines are compatible with the following renewable, alternative, and biodiesel* fuels that reduce greenhouse gases***: • Up to B20 biodiesel (FAME)** • Up to 100% HVO and GTL renewable fuels – Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specifications are required. – Diesel exhaust fluid (DEF) that meets all requirements defined in ISO 22241-1:2006. * Refer to guidelines for successful application. Please consult your Cat dealer or “Caterpillar Machine Fluids Recommendations” (SEBU6250) for details. ** Engines with aftertreatment devices can use up to B20. Engines with no aftertreatment devices can use higher blends, up to B100. *** Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.

Air Conditioning System

Air Conditioning	The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas. - If equipped with R134a (Global Warming Potential = 1430), the system contains 2 kg of refrigerant which has a CO2 equivalent of 2.86 metric tonnes (3.15 tons).
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Axles

Front	Planetary – Fixed
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Rear	Planetary – Oscillating
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Oscillation Angle	±11°
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Braking System

Parking Brake	Drum and shoe, spring applied, hydraulic released
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Brakes	Multi-disc wet (enclosed) 4 WHL
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Sound Performance - Tier 4 Final / Stage V

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
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Machine Sound Power Level (ISO 6395:2008)	113 dB(A)
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Operator Sound Pressure Level (ISO 6396:2008)*	72 dB(A)
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Machine Sound Power Level (ISO 6395:2008)**	110 dB(A)
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Note (1)	* For machines in European Union countries and in countries that adopt the "EU Directives" and "UK Directives"
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Note (2)	** European Union Directive "2000/14/EC" as amended by "2005/88/EC." and UK Noise Regulation 2001 No. 1701
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Note (3)	The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
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Note (4)	The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
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Note (5)	Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.
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Sound Performance - Tier 3 / Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
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Machine Sound Power Level (ISO 6395:2008)	113 dB(A)
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Operator Sound Pressure Level (ISO 6396:2008)*	72 dB(A)
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Machine Sound Power Level (ISO 6395:2008)**	110 dB(A)
Note (1)	* For machines in European Union countries and in countries that adopt the “EU Directives” and “UK Directives”
Note (2)	** European Union Directive “2000/14/EC” as amended by “2005/88/EC.” and UK Noise Regulation 2001 No. 1701
Note (3)	The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
Note (4)	The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
Note (5)	Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.

Dimensions (Approximate)

Height to Top of Beacon	4422 mm
Height - Top of Exhaust Stack	4332 mm
Height - Top of Hood	3204 mm
Ground Clearance - Bumper	852 mm
Centerline of Rear Axle to Edge of Bumper	2830 mm
Centerline of Front Axle to Hitch	1850 mm
Wheel Base	3700 mm
Length - With Blade on Ground - Straight Blade	8422 mm
Ground Clearance to Trunnion	441.4 mm

Height - Top of Cab	4100 mm
Width Over Guardrails	3336 mm
Ground Clearance	534.4 mm

Straight Blade

Capacity	5 m ³
Width Over End Bits	4507 mm
Height	1230 mm
Dig Depth	448 mm
Ground Clearance	1057 mm
Maximum Tilt	1167 mm
Turning Radius – Outside Corner of Blade	7227 mm
Turning Radius – Inside Corner of Blade	3093 mm

Straight Push Plate Blade

Capacity	5 m ³
Width Over End Bits	4507 mm
Height	1230 mm
Dig Depth	448 mm
Ground Clearance	1057 mm
Maximum Tilt	1167 mm
Turning Radius – Outside Corner of Blade	7099 mm

Turning Radius – Inside Corner of Blade	3120 mm
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Semi-Universal Blade

Capacity	7.7 m³
Width Over End Bits	4421 mm
Height	1551 mm
Dig Depth	477 mm
Ground Clearance	1068 mm
Maximum Tilt	1120 mm
Turning Radius – Outside Corner of Blade	7260 mm
Turning Radius – Inside Corner of Blade	3313 mm

Universal Blade

Capacity	7.7 m³
Width Over End Bits	4352 mm
Height	1350 mm
Dig Depth	461 mm
Ground Clearance	1051 mm
Maximum Tilt	1132 mm
Turning Radius – Outside Corner of Blade	7299 mm
Turning Radius – Inside Corner of Blade	3468 mm

Coal Blade

Capacity	16.2 m ³
Width Over End Bits	4798 mm
Height	1745 mm
Dig Depth	472 mm
Ground Clearance	1072 mm
Maximum Tilt	1242 mm
Turning Radius – Outside Corner of Blade	7590 mm
Turning Radius – Inside Corner of Blade	3496 mm

Extended Wear Blade

Capacity	8.1 m ³
Width Over End Bits	4357 mm
Height	1350 mm
Dig Depth	461 mm
Ground Clearance	1051 mm
Maximum Tilt	1132 mm
Turning Radius – Outside Corner of Blade	7296 mm
Turning Radius – Inside Corner of Blade	3475 mm

824 Standard Equipment

NOTE

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

SAFETY

Camera, rear vision
Alarm, back-up
Light, warning switched (LED strobe)
Lighting, access stairway
Cat Detect: Object Detection (ready)
Mirror, internal (panoramic)
Mirrors, rearview (externally mounted)
Seat belt with minder, retractable, 76 mm (3 in) wide
Steering and Transmission Integrated Control (STIC™) system with lockout
Emergency platform egress
Stairway, left and right rear access
Toe kicks

EFFICIENCY

Hydraulically driven demand fan

POWERTRAIN

Air-to-air aftercooler
Auto shift
Brakes, full hydraulic, enclosed, wet multiple disc service brakes
Cat Clean Emission Module (Tier 4 Final/Stage V)
Electro-hydraulic parking brake
Electronic Clutch Pressure Control (ECPC)
Engine, Cat C15 meets Tier 4 Final/Stage V emission standards, or emits equivalent to U.S. EPA Tier 3/EU Stage IIIA emission standards
Fuel priming pump (electric)
Fuel-to-air cooler
Integrated braking system
Muffler (under hood) (Tier 3/Stage IIIA)
Radiator, Aluminum Modular (AMR)
Separated cooling system
Single Clutch Speed Shifting (SCSS)
Throttle lock
Torque converter with Lock Up Clutch (LUC)
Transmission, planetary, with (4F/4R) speed range control

COLD WEATHER

Starting aid (ether) automatic
Antifreeze, premixed 50% concentration extended life (-34° C/-29° F)

ELECTRICAL

Alternator, 150 amp
Batteries, maintenance-free (4 – 1,000 CCA)
Electrical system, 24V

Lighting system, halogen (front and rear)

Lights, directional (rear)

Starter, electric (heavy duty)

OPERATOR ENVIRONMENT

Radio, CB (ready)

12V power port for mobile phone or laptop connection

Air conditioner

Cab, sound-suppressed pressurized, internal four-post rollover protective structure/falling objects protective structure (ROPS/FOPS), radio ready for entertainment includes antenna, speakers, converter (12-volt 10/15-amp), and power port

Cab door, sliding window (LH)

Coat and hard hat hooks

Electro-hydraulic tilt and tip controls

Fingertip shifting controls

Flip-up armrest

Heater and defroster

Horn, electric

Implement hydraulic lockout

Instrumentation, gauges: – Diesel exhaust fluid (DEF) level (U.S. EPA Tier 4 Final/Stage V) – Engine coolant temperature – Fuel level – Hydraulic oil temperature – Speedometer/tachometer – Torque converter temperature

Instrumentation, warning indicators: – Action alert system, three categories – Brake oil pressure –

Electrical system, low voltage – Engine failure malfunction alert and action lamp – Parking brake status

Cab precleaner, powered

Light, (dome) cab

Lunch box and beverage holders

Seat, premium plus containing forced air heating and cooling, two-way thigh adjustment, power lumbar and back bolster adjustment, ride stiffness adjustment, dynamic end dampening, and leather finish

Sun visor, front

Rubber mounted, laminated, tinted glass

Transmission gear (indicator)

Vital Information Management System (VIMS™): – Graphical information display – External data port – Customizable operator profiles

Wet-arm wipers/washers (front and rear): – Intermittent wipers (front and rear)

OTHER

Guard, driveshaft

Guards, crankcase and powertrain

Fold-down exhaust stack for shipping

Fuel tank, 782 L (207 gal)

Hitch, drawbar with pin

Hoses, Cat XT™

Hydraulic, engine, and transmission oil coolers

Vandalism protection caplocks

Venturi stack

SERVICE

Ground level emergency engine shutdown switch
Ground level lockable master battery disconnect switch
Auxiliary jump start receptacle
Doors, service access (locking)
Ecology drains for engine, radiator, transmission, hydraulic tank
Engine, crankcase, 500 hour interval with CJ-4 oil
Engine precleaner
Fire suppression ready
Oil change system, high speed
Oil sampling valves
Product Link™
Lighting underhood
Total hydraulic filtration system

824 Optional Equipment

NOTE

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

OPERATOR ENVIRONMENT

Radio, AM/FM/AUX/USB/Bluetooth®

OTHER

Counterweight, front

SOUND

Sound suppression

ELECTRICAL

Lighting system, LED

SERVICE

Tire Pressure Monitoring System
Dual stage engine precleaner

COLD WEATHER

Heater, engine coolant, 120V
Heater, engine coolant, 240V
Antifreeze, -50° C (-58° F)
Arctic hydraulic oil
Mirrors, heated

POWERTRAIN

No-spin rear axle