824

WHEEL DOZER

Engine Model	**Cat® C15**
Operating Weight – Straight Blade (Tier 4 Final/Stage V)	**34004 kg (74966 lb)**
Net Power - SAE J1349:2011	**302 kW (405 hp)**

824

WHEEL DOZER

Cat® wheel dozers are designed with durability built in, ensuring maximum availability through multiple lifecycles. With optimized performance and simplified serviceability, our machines allow you to support your jobsite efficiently and safely while lowering owning and operating costs. The 824 continues our legacy of reliability, performance, safety, operator comfort, serviceability, and efficiency.

IMPROVED MAINTENANCE

Make regular maintenance more convenient with accessible controls located inside the cab.

ADDITIONAL SAFETY

Grouped ground level engine and machine controls allow for safe and easy daily maintenance.

ENHANCED OPERATOR COMFORT

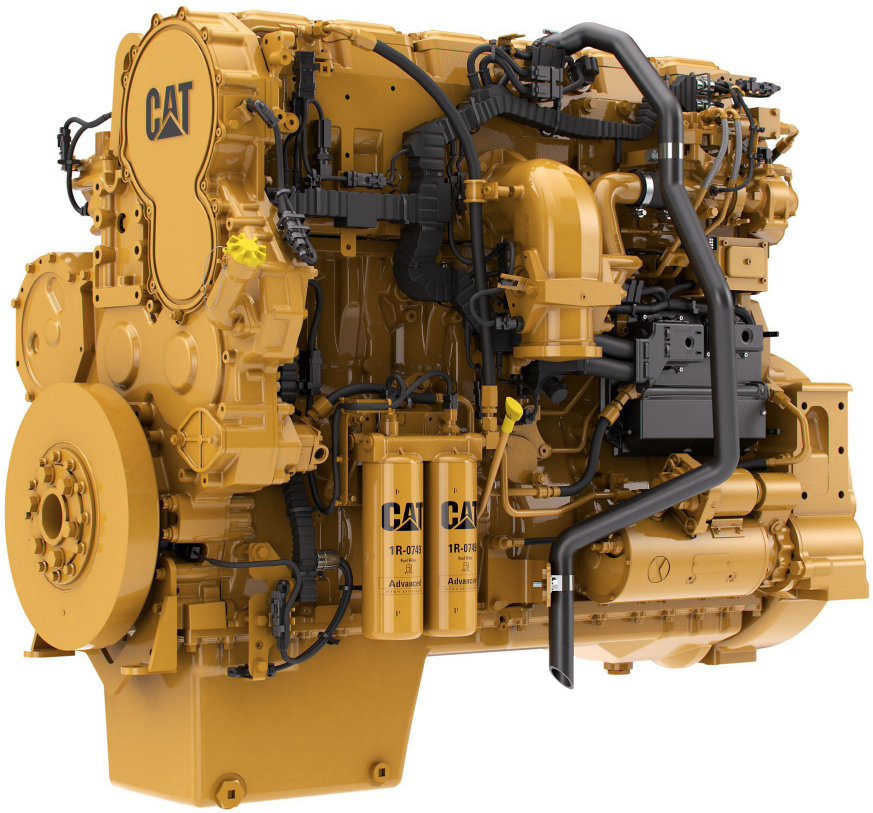
Comfortable cab and low effort controls with reduced vibration levels help operators work more productively throughout the day.

LONG-TERM VALUE AND DURABILITY

- Solid through-width push beams transfer and absorb stresses through a larger portion of the frame.
- The full box-section rear frame helps resist torsional shock and twisting forces.
- Heavy-duty steering cylinder mounts efficiently transmit steering loads into the frame.
- Optimized axle mounting helps result in increased structural integrity.
- Delayed engine shutdown allows your machine to cool before shutting down the engine to help prevent engine and after-treatment damage.
- Resilient, durable blades are designed with excellent dozing and rolling characteristics.

EFFICIENCY AND PRODUCTIVITY

- The Cat C15 engine is designed for maximum fuel efficiency in the most demanding conditions.
- Load sensing hydraulic steering system helps enable precise machine control for easier loading.
- Experience increased efficiency with variable displacement piston pumps.
- World-class Cat planetary powershift transmission features Single Clutch Speed Shifting (SCSS) for smooth, consistent shifting and efficiency. Enable autoshift mode to automatically upshift or downshift based on machine speed, optimizing performance and conserving fuel.
- Equipped with Cat torque converter (TC) with lock-up clutch which helps optimize fuel efficiency by eliminating TC losses while transferring more power to the ground.



SAFETY FIRST

- Standard rear vision camera to help enhance operator visibility and improve workspace safety.
- Battery disconnect, emergency engine shutdown, and stairway light switch are accessed through the ground level power service center.
- Cab-mounted LED beacon helps provide warning for others near the machine.

INTEGRATED CAT® TECHNOLOGIES

- Integrated technologies help you to monitor, manage, and enhance your jobsite operations.
- Product Link™ remote monitoring helps provide valuable insight into machine or fleet performance through the VisionLink™ interface, so you can make decisions that boost jobsite efficiency and lower operating costs.
- Vital Information Management System (VIMS™) touchscreen display helps give access to a wide range of sensor information and enhanced machine data to help resolve problems before machine failure.
- Optional Cat Detect technologies help enhance awareness of the environment around the machine for increased safety.

WORK IN COMFORT

- Steering and Transmission Integrated Control (STIC™) system combines directional selection, gear selection, and steering into a single lever, helping to maximize responsiveness and control, while reducing operator fatigue.
- Operators can easily enter and exit the cab with fold-up STIC steer/armrest, reduced access stairway angles, and standard stairway lighting.
- Experience reduced vibrations with isolated cab mounts and seat-mounted implement and steering controls.
- Large backlit membrane switches feature LED activation indicators and ISO symbols for quick function identification.
- Reduced interior sound levels help keep operators comfortable throughout their entire shift.

REDUCE ENVIRONMENTAL IMPACT

- Automatic engine and electrical system shutdown helps conserve fuel and helps reduce component wear when machine is not in use.
- Generate less waste with maintenance-free batteries.
- Maximize machine life and help lower operating costs with Cat Reman and Certified Rebuild programs, which utilize reused or remanufactured components for 40 to 70% cost savings.
- Retrofit packages from Caterpillar deliver new features to older machines to get the most from your investment.

SAVE ON SERVICE AND MAINTENANCE

- Swing-out fuel, hydraulic oil coolers, and condenser help allow for easy access cleanout.
- Machine features ground level or platform access to easily reach daily service points.
- Swing-out doors on either side of the engine compartment help provide easy access to critical daily service checks.
- Optional tire pressure monitoring system provides real-time information to the operator in the cab for optimized tire life.
- Electronics bay is conveniently located inside the cab.
- Sight gauges offer quick visual inspection to help minimize fluid contamination.
- Lighting inside the engine compartment helps improve visibility to service points.
- Ecology drains help prevent spills and allow for easier service.

MAINTENANCE **SAVINGS**

GROUPED COMPONENTS
REDUCE MAINTENANCE TIME

SIGHT GAUGES **REDUCE CONTAMINATION RISK** AND DAILY SERVICE TIME

VIMS™ **ALERTS OPERATOR** BEFORE COMPONENT FAILURE

TECHNICAL SPECIFICATIONS

Engine

Engine Model	Cat® C15	
Net Power - SAE J1349:2011	302 kW	405 hp
Net Power - ISO 9249:2007	302 kW	405 hp
Rated Speed	1800 r/min	1,800 r/min
Engine Power - ISO 14396:2002	318 kW	426 hp
Gross Power - SAE J1995:2014	324 kW	434 hp
Peak Net Torque (1,300 rpm)	2005 N·m	1,479 lbf·ft
Torque Rise	33%	
Maximum Altitude without Derating (U.S. EPA Tier 4 Final/EU Stage V)	2834 m	9,298 ft
Maximum Altitude without Derating (U.S. EPA Tier 3/EU Stage IIIA)	2773 m	9,098 ft
Bore	137.2 mm	5.4 in
Stroke	171.4 mm	6.7 in
Displacement	15.2 l	927.6 in^3
High Idle Speed	2300 r/min	2,300 r/min
Low Idle Speed	800 r/min	800 r/min

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.

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)	34 004 kg	74,966 lb

Transmission

Transmission Type	Cat planetary - powershift - ECPC	
Forward - 1	6.1 km/h	3.8 mile/h
Forward - 2	11.1 km/h	6.9 mile/h
Forward - 3	19.6 km/h	12.2 mile/h
Forward - 4	34.8 km/h	21.6 mile/h
Reverse - 1	7 km/h	4.3 mile/h
Reverse - 2	12.6 km/h	7.8 mile/h
Reverse - 3	22.4 km/h	13.9 mile/h
Reverse - 4	39.7 km/h	24.7 mile/h

Hydraulic System - Lift/Tilt

Pump Flow at 1,800 rpm	117 l/min	30.9 gal/min
Main Relief Pressure	26 000 kPa	3,771 psi
Maximum Supply Pressure	24 100 kPa	3,495 psi
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	4.5 in
Stroke	576 mm	22.7 in
Steering System - Pump	Variable displacement piston	
Max Flow at 1,800 rpm	170 l/min	44.9 gal/min
Relief Valve Setting - Steering	24 000 kPa	3,481 psi
Vehicle Articulation Angle	86°	

Service Refill Capacities

Cooling System	116 l	30.6 gal (US)
Engine Crankcase	34 l	9 gal (US)
Transmission	66 l	17.4 gal (US)
Fuel Tank	782 l	206.6 gal (US)
Diesel Exhaust Fluid Tank (For Tier 4 Final/Stage V Only)	32 l	8.5 gal (US)
Differential - Final Drives - Front	100 l	26.4 gal (US)
Differential - Final Drives - Rear	110 l	29.1 gal (US)
Hydraulic Tank Only	134 l	35.4 gal (US)
Hydraulic System - Implement/ Steering	214 l	56.5 gal (US)

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 2.0 kg of refrigerant which has a CO_2 equivalent of 2.86 metric tonnes (3.15 tons).

Axles

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

Braking System

Parking Brake	Drum and shoe, spring applied, hydraulic released
Brakes	Multi-disc wet (enclosed) 4 WHL

Sound Performance - Tier 3 / Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	113 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)*	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)**	110 dB(A)

* For machines in European Union countries and in countries that adopt the "EU Directives" and "UK Directives."

** European Union Directive "2000/14/EC" as amended by "2005/88/EC" and UK Noise Regulation 2001 No. 1701.

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.

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.

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.

Sound Performance - Tier 4 Final / Stage V

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	113 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)*	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)**	110 dB(A)

* For machines in European Union countries and in countries that adopt the "EU Directives" and "UK Directives."

** European Union Directive "2000/14/EC" as amended by "2005/88/EC" and UK Noise Regulation 2001 No. 1701.

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.

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.

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	14.5 ft
Height - Top of Exhaust Stack	4332 mm	14.2 ft
Height - Top of Hood	3204 mm	10.5 ft
Ground Clearance - Bumper	852 mm	2.8 ft
Centerline of Rear Axle to Edge of Bumper	2830 mm	9.3 ft
Centerline of Front Axle to Hitch	1850 mm	6.1 ft
Wheel Base	3700 mm	12.1 ft
Length - With Blade on Ground - Straight Blade	8422 mm	27.6 ft
Ground Clearance to Trunnion	441.4 mm	1.45 ft
Height - Top of Cab	4100 mm	13.5 ft
Width Over Guardrails	3336 mm	10.94 ft
Ground Clearance	534.4 mm	1.8 ft

Straight Blade

Capacity	5 m^3	6.6 yd^3
Width Over End Bits	4507 mm	177.4 in
Height	1230 mm	48.4 in
Dig Depth	448 mm	17.6 in
Ground Clearance	1057 mm	41.6 in
Maximum Tilt	1167 mm	45.9 in
Turning Radius – Outside Corner of Blade	7227 mm	23.7 ft
Turning Radius – Inside Corner of Blade	3093 mm	10.15 ft

Straight Push Plate Blade

Capacity	5 m^3	6.6 yd^3
Width Over End Bits	4507 mm	177.4 in
Height	1230 mm	48.4 in
Dig Depth	448 mm	17.6 in
Ground Clearance	1057 mm	41.6 in
Maximum Tilt	1167 mm	45.9 in
Turning Radius – Outside Corner of Blade	7099 mm	23.2 ft
Turning Radius – Inside Corner of Blade	3120 mm	10.2 in^3

Semi-Universal Blade

Capacity	7.7 m^3	10 yd^3
Width Over End Bits	4421 mm	174.1 in
Height	1551 mm	61.1 in
Dig Depth	477 mm	18.8 in
Ground Clearance	1068 mm	42 in
Maximum Tilt	1120 mm	44.1 in
Turning Radius – Outside Corner of Blade	7260 mm	23.8 ft
Turning Radius – Inside Corner of Blade	3313 mm	10.8 ft

Universal Blade

Capacity	7.7 m^3	10 yd^3
Width Over End Bits	4352 mm	171.3 in
Height	1350 mm	53.1 in
Dig Depth	461 mm	18.1 in
Ground Clearance	1051 mm	41.4 in
Maximum Tilt	1132 mm	44.6 in
Turning Radius – Outside Corner of Blade	7299 mm	23.9 ft
Turning Radius – Inside Corner of Blade	3468 mm	11.3 ft

Coal Blade		
Capacity	16.2 m^3	21.2 yd^3
Width Over End Bits	4798 mm	189 in
Height	1745 mm	68.7 in
Dig Depth	472 mm	18.6 in
Ground Clearance	1072 mm	42.2 in
Maximum Tilt	1242 mm	48.9 in
Turning Radius – Outside Corner of Blade	7590 mm	24.9 ft
Turning Radius – Inside Corner of Blade	3496 mm	11.4 ft
Extended Wear Blade		
Capacity	8.1 m^3	10.6 yd^3
Width Over End Bits	4357 mm	171.6 in
Height	1350 mm	53.1 in
Dig Depth	461 mm	18.1 in
Ground Clearance	1051 mm	41.4 in
Maximum Tilt	1132 mm	44.6 in
Turning Radius – Outside Corner of Blade	7296 mm	23.9 ft
Turning Radius – Inside Corner of Blade	3475 mm	11.4 ft

STANDARD & OPTIONAL EQUIPMENT

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

	Standard	Optional
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	✓	
Counterweight, front		✓
COLD WEATHER		
Starting aid (ether) automatic	✓	
Antifreeze, premixed 50% concentration extended life (–34° C/–29° F)	✓	
Heater, engine coolant, 120V		✓
Heater, engine coolant, 240V		✓
Antifreeze, –50° C (–58° F)		✓
Arctic hydraulic oil		✓
Mirrors, heated		✓
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/EU 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	✓	

	Standard	Optional
OPERATOR ENVIRONMENT (CONTINUED)		
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)	✓	
Radio, AM/FM/AUX/USB/Bluetooth®		✓
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)	✓	
Lighting system, LED		✓
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	✓	

	Standard	Optional
SOUND		
Sound suppression		✓
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	✓	
No-spin rear axle		✓
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	✓	
Tire Pressure Monitoring System		✓
Dual stage engine precleaner		✓
EFFICIENCY		
Hydraulically driven demand fan	✓	

AEXQ3930-00
Build Number: 11A
(Global)

For more complete information on Cat products, dealer services and industry solutions, visit us on the web at www.cat.com.

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