



# Cat<sup>®</sup> 824

## Wheel Dozer

**Cat<sup>®</sup> wheel dozers combine the power of a track dozer with the mobility of a wheeled machine to help deliver high production at low operating costs in a variety of applications — from surface mining cleanup to coal stock piling, road maintenance to reclamation.**

### Unmatched 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 aftertreatment damage.
- Resilient, durable blades are designed with excellent dozing and rolling characteristics.

### Optimum Efficiency

- The Cat C15 engine is designed for maximum fuel efficiency in the most demanding conditions.
- Enable Autoshift Mode uses speed sensing technology to shift between transmission gears optimizing performance and fuel efficiency.
- 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.
- 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.

### Increased Safety

- 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.

### Innovative Technology

- Integrated technologies help you to monitor, manage, and enhance your jobsite operations.
- Product Link<sup>™</sup> remote monitoring helps provide valuable insight into machine or fleet performance through the VisionLink<sup>®</sup> interface, so you can make decisions that boost jobsite efficiency and lower operating costs.
- Vital Information Management System (VIMS<sup>™</sup>) 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.

### Enhanced Operator Comfort

- Steering and Transmission Integrated Control System (STIC<sup>™</sup>) 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.



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## Improved Sustainability

- 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 Caterpillar Reman and Certified Rebuild programs, which utilize reused or remanufactured components for 40 to 70 percent cost savings.
- Retrofit packages from Caterpillar deliver new features to older machines to get the most from your investment.

## Simplified 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.

## Purpose Built Specialty Arrangements

- Available in two scoop arrangements – wood chip and coal.
- Cat wood chip and coal scoops have the unique capability of helping to maximize your production by both dozing and carrying a load with each pass.
- Optimized hydraulic system built for use with this work tool helps maximize machine productivity and efficiency.
- Dual lift cylinders provide hydraulic lift capacity matched to the demands of the application.
- Equipped with ground level swing-out reversing fan for quick inspection and easy cleanout.
- Equipped with underhood ventilation system which helps create a neutral pressure environment to prevent wood chip ingestion from hood openings while providing fresh air to the alternator, electronics, and turbo.
- Extended top guard for increased capacity for wood chip scoops.
- Higher ground pressure helps decrease risk of fires and helps maximize use of storage space.
- Less damage to coal or wood chips due to rubber tires.
- High ground speed helps provide ability to manage multiple piles.
- Scoop design allows load and carry function for mixing.
- Lift and tip-out design helps make stockpiling operations easy.
- Scoop tilt control is standard to help maximize worksite efficiency.

## Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
<b>ELECTRICAL</b>			<b>SAFETY (CONTINUED)</b>		
Lighting system, halogen (front and rear)	✓		Internal four-post rollover protective structure (ROPS/FOPS)	✓	
Lighting system, LED		✓	Light, warning switched (LED strobe)	✓	
Lights, directional (rear)	✓		Lighting, access stairway	✓	
Starter, electric (heavy duty)	✓		Mirror, internal (panoramic)	✓	
<b>OPERATOR ENVIRONMENT</b>			Mirrors, rearview (externally mounted)	✓	
Electro-hydraulic tilt and tip controls	✓		Seat belt with minder, retractable, 76 mm (3 in) wide	✓	
Radio, AM/FM/AUX/USB/Bluetooth		✓	Stairway, left and right rear access	✓	
Radio, CB ready		✓	Steering, secondary	✓	
Radio ready for entertainment: antenna, speakers, converter (12V, 10-15 amp)	✓		STIC control system with lockout	✓	
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	✓		Toe kicks	✓	
Rubber mounted, laminated, tinted glass	✓		<b>SERVICE</b>		
<b>POWER TRAIN</b>			Doors, service access (locking)	✓	
Brakes, full hydraulic, enclosed, wet multiple disc service brakes	✓		Engine, crankcase 500 hour interval with CJ-4 oil	✓	
No-spin rear axle		✓	Engine precleaner	✓	
<b>EFFICIENCY</b>			Dual stage engine precleaner		✓
Demand fan – hydraulically driven	✓		Ecology drains for engine, radiator, transmission, hydraulic tank	✓	
Torque converter with Lock-Up Clutch (LUC)	✓		Fast fill fuel		✓
Engine idle management features: auto idle kickdown, delayed engine shutdown, engine idle shutdown	✓		Fire suppression ready	✓	
Steering, load sensing	✓		Ground level engine shutoff	✓	
<b>COLD WEATHER</b>			Ground level lockable master disconnect switch	✓	
Antifreeze, -50° C (-58° F)		✓	Oil change system, high speed	✓	
Antifreeze, premixed 50% concentration extended life (-34° C/-29° F)	✓		Oil sampling valves	✓	
Arctic hydraulic oil		✓	Product Link	✓	
Heater, engine coolant (120V)		✓	Auxiliary start receptacle	✓	
Heater, engine coolant (240V)		✓	Tire pressure monitoring system		✓
Mirrors, heated	✓		Total hydraulic filtration systems	✓	
Starting aid (ether), automatic		✓	<b>SOUND</b>		
<b>SAFETY</b>			Sound suppression		✓
Alarm, back-up	✓		<b>OTHER</b>		
Cab Integrated Object Detection System (CIODS) ready	✓		Counterweight, front		✓
Camera, rear vision	✓		<b>OTHER OPTIONAL ARRANGEMENTS</b>		
Emergency platform egress	✓		Scoop arrangement		✓

# Cat® 824 Wheel Dozer

## 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
Gross Power (SAE J1995:2014)		
Direct Drive	307 kW	412 hp
Converter Drive	324 kW	434 hp
Peak Net Torque (1,300 rpm)	2005 N·m	1479 lbf·ft
Maximum Altitude without Derating (Tier 4 Final/Stage V)	2834 m	9,298 ft
Maximum Altitude without Derating (Tier 3/Stage IIIA equivalent)	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 <sup>3</sup>
High Idle Speed	2,300 rpm	
Low Idle Speed	800 rpm	

- 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
Operating Weight – Chip Scoop	38 020 kg	83,820 lb
Operating Weight – Coal Scoop	36 631 kg	80,758 lb
Blade Capacity Range	5.1-41.3 m <sup>3</sup>	6.6-54.0 yd <sup>3</sup>

## Transmission

Transmission Type      Direct drive with lockup clutch torque converter

Speed	km/h	mph	Speed	km/h	mph
Forward 1	6.1	3.9	Reverse 1	7.0	4.4
Forward 2	11.1	6.9	Reverse 2	12.6	7.8
Forward 3	19.6	12.2	Reverse 3	22.4	13.9
Forward 4	34.8	21.6	Reverse 4	39.7	24.7

## Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.0 kg of refrigerant which has a CO<sub>2</sub> equivalent of 2.86 metric tonnes.

## 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
Cylinder, 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	Double Acting – end mounted	
Bore	114.3 mm	4.5 in
Stroke	576 mm	22.7 in
Steering System – Pump	Variable displacement piston	
Maximum System Flow at 1,800 rpm	85 L/min	22.5 gal/min
Steering Pressure Limited	24 000 kPa	3,481 psi
Vehicle Articulation Angle	86°	

## Service Refill Capacities

Cooling System	116 L	30.6 gal
Engine Crankcase	34 L	9.0 gal
Transmission	66 L	17.4 gal
Fuel Tank	782 L	206.6 gal
Diesel Exhaust Fluid Tank (Tier 4 Final/Stage V)	32 L	8.5 gal
Differentials and Final Drives – Front	100 L	26.4 gal
Differentials and Final Drives – Rear	110 L	29.1 gal
Hydraulic Tank Only	134 L	35.4 gal

- All non-road U.S. EPA 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.
- \* 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.

## Sound Performance

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

- The operator sound pressure level was measured according to the test procedures and conditions specified in ISO 6396:2008. The measurement was conducted at 70% of 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.
- The machine sound power level was measured according to the test procedures and conditions specified in ISO 6395:2008. The measurement was conducted at 70% of maximum engine cooling fan speed.

\* Including countries that adopt the EU and UK Directives.

\*\* EU Noise Directive 2000/14/EC and UK Noise Regulation 2001 No. 1701.



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Global

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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