824K Wheel Dozer





Engine	
Engine Model	Cat® C15 ACERT™
Emissions	Meets U.S. EPA Tier emission standards Tier 3/EU Stage IIIA emission standards
Grace Power	224 14/4

Gross Power
Maximum Net Torque
@ 1,300 rpm

Meets U.S. EPA Tier 4 Final/EU Stage IV emission standards or meets U.S. EPA Tier 3/EU Stage IIIA equivalent emission standards 324 kW 435 hp 2005 N·m 1,478.8 lbf-ft

Operating Specifications

Maximum Operating Weight —

Multiple Blade

Straight Blade (Tier 4 Final/ 34 004 kg 74,966 lb Stage IV equivalent)

Straight Blade (Tier 3 Final/ 33 558 kg 73,983 lb Stage IIIA equivalent)

Lower your operating cost with industry leading efficiency.

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Cat Wheel Dozers are designed with durability built in, ensuring maximum availability through multiple life cycles. With optimized performance and simplified serviceability, our machines allow you to support your job site efficiently and safely while lowering owning and operating costs.

The 824K continues our legacy of reliability, performance, safety, operator comfort, serviceability, and efficiency.



Efficiency and Productivity

Delivering the efficiency and productivity you demand through integrated machine systems.

Efficiency with Autoshift

The Autoshift mode, when active, allows the machine to automatically upshift or downshift based on machine speed, optimizing performance and thus saving fuel. This feature can be easily enabled or disabled on the soft keypad.

Decelerator Pedal

The left pedal acts as a brake, transmission neutralizer and an engine decelerator to override the engine speed selected by the throttle lock. This enables the operator to slow down when the throttle lock is engaged and to return to throttle lock without pressing a resume or set button again. This aids in maneuvering around trucks, tractors or any other obstacle.

Steering and Transmission Integrated Control System (STIC™)

Experience maximum responsiveness and control with STIC that combines directional selection, gear selection and steering into a single lever.

- Simple side-to-side motion turns machine right or left, minimizing operator movements
- Easy to operate finger controlled gear selection
- Smoother, faster cycles help reduce operator fatigue through the use of low effort integrated controls

Steering System

Confident machine operation starts with precise machine control enabled by the 824K's load sensing hydraulic steering system.

- Increase efficiency with our variable displacement piston pumps
- Achieve precise positioning for easy loading in tight areas with
 43 degrees each way of steering articulation
- Enhance operator comfort with integrated steering and transmission control functions

Electro Hydraulic Controls

Operators increase productivity with our responsive implements feature.

- Operate comfortably through electronically controlled hydraulic cylinder stops
- Handle easy-to-use soft detent controls









Robust Structures

Your bottom line is improved by highly durable structures that achieve multiple life cycles and withstand the toughest loading conditions.

- Full box-section rear frame resists torsional shock and twisting forces
- Heavy-duty steering cylinder mounts efficiently transmit steering loads into the frame
- Axle mounting has been optimized for increased structural integrity



Push Beam and Push Arm Dozer Arrangement

To ensure long life and reliability, solid one piece push beams are through-width, not merely attached to the side of the frame. In corner dozing, stresses are transferred and absorbed through a larger portion of the frame.



Cat Planetary Powershift Transmission

Building your success begins with a best-in-class transmission.

- Consistent, smooth shifting and efficiency through integrated electronic controls that utilize Single Clutch Speed Shifting (SCSS).
- Long life and reliability through heat treat gear and metallurgy.
- Four forward and four reverse speeds to match your application.

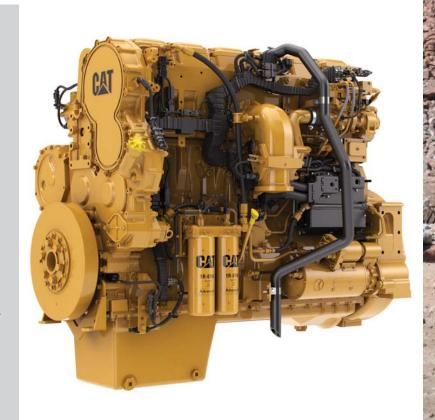
Cat Torque Converter (TC) with Lock-up Clutch

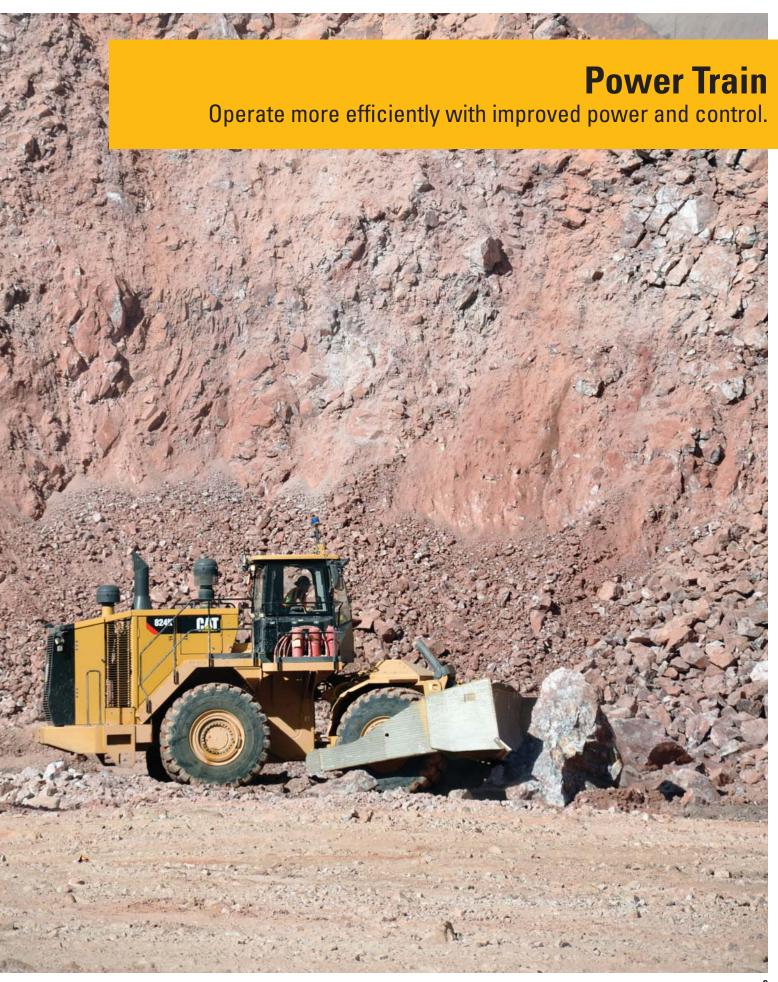
- Eliminates TC losses while lowering system heat
- Improves travel speeds
- Increases fuel efficiency

Cat C15 ACERT Engine

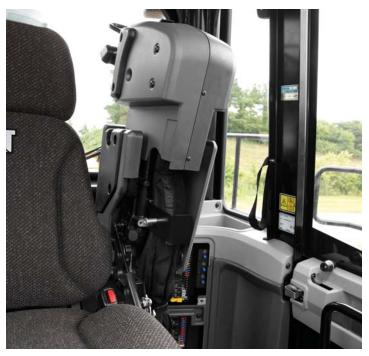
The Cat C15 ACERT engine is built and tested to meet your most demanding applications. Two engine options are available that meet U.S. EPA Tier 4 Final/EU Stage IV emission standards or U.S. EPA Tier 3/EU Stage IIIA equivalent emission standards.

- Fully integrated electronic engine controls works in concert with the entire machine to make your fuel go farther.
- Use less fuel idling with Engine Idle Shutdown.
- Maximized durability with Delayed Engine Shutdown.





Your operators can work more efficiently and stay comfortable with our customer-inspired cab features.



Entry and Exit

Enter and exit the cab easily and safely with these newly designed, ergonomic features.

- Fold up STIC steer/armrest
- Reduced access stairway angles
- · Standard stairway lighting



Cat Comfort Series III Seat

Enhance comfort and help reduce operator fatigue with Cat Comfort Series III seat.

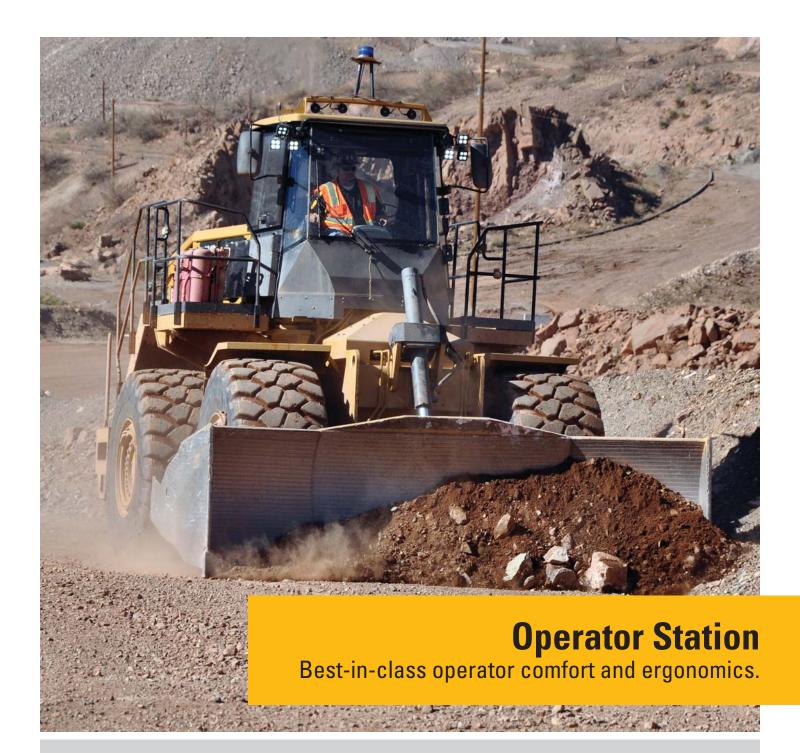
- Mid back design and extra thick, contoured cushions
- Air suspension system
- Easy-to-reach seat levers and controls for six way adjustments
- Seat-mounted implement pod and STIC steer that moves with the seat
- 76 mm (3 in) wide retractable seat belt



Control Panel

Ergonomic placement of switches and information display keep your operators comfortable all day every day.

- Large backlit membrane switches feature LED activation indicators
- Switches feature ISO symbols for quick function identification
- Two position rocker switch activates the electro hydraulic park brake



Environment

Your operator's productivity is enhanced with our clean, comfortable cab environment.

- Experience reduced vibrations from isolation cab mounts and seat air suspension.
- Maintain desired cab temperature with automatic temperature controls.
- Pressurized cab with filtered air
- Reduced sound levels
- Convenient floor storage tray/lunch box

Integrated Technologies

Monitor, manage, and enhance your job site operations





Cat Connect makes smart use of technology and services to improve your job site efficiency. Using the data from technology-equipped machines, you'll get more information and insight into your equipment and operations than ever before.

Cat Connect technologies offer improvements in these key areas:



Equipment Management – increase uptime and reduce

operating costs.



Safety – enhance job site awareness to keep your people and equipment safe.

LINK Technologies

LINK technologies like Product LinkTM wirelessly connect you to your equipment, giving you valuable insight into how your machine or fleet is performing.

Track location, hours, fuel usage, idle time, and event codes through the online VisionLink® interface so you can make timely, fact-based decisions that can boost job site efficiency and productivity, and lower operating costs.

VIMS™ data, like events, histograms, and historical trends, can be downloaded for analysis, giving you the information you need to proactively maintain fleet health and optimize performance and uptime.

DETECT Technologies

DETECT technologies like the rear-vision camera enhance awareness by expanding your view of the environment around working equipment so you can work at peak potential, with confidence.

Serviceability

Enabling high uptime by reducing your service time.

We can help you succeed by ensuring your 824K has design features to reduce your downtime.

- Safe and convenient service with ground level or platform access and grouped service points.
- Swing-out doors on both sides of the engine compartment provide easy access to important daily service checks.
- Ecology drains for ease of service and prevention of spilling potential environmental contaminants.
- Reduce downtime with VIMS system notifications so your operators and technicians can resolve any problems before failure.
- Quick visual inspection and minimize fluid contamination with sight gauges.
- Swing out fuel, hydraulic oil coolers and condenser for easy access cleanout.
- Ground level power service center with electrical disconnect, emergency engine shutdown, and stairway light switch.
- Optional tire pressure monitoring system provides real time information to the operator in the cab, ensuring proper inflation and optimizing tire life.
- Lighting inside the engine compartment improves visibility to service points.





Customer Support

Your Cat dealers know how to keep your machines productive.



Legendary Cat Dealer Support

A valued partner, your Cat dealer is available whenever you need them.

- Preventive maintenance programs and guaranteed maintenance contracts
- · Best-in-class parts availability
- Improve your efficiency with operator training
- Genuine Cat Remanufactured parts

Safety

Making your safety our priority.



We are constantly improving our products in an effort to provide a safe work environment for the operator and those who work on your job site.

Machine Access

- Left and right hand stairs are angled to enhance safety for operators getting on and off the 824K.
- Continuous pass-through with handrails and non-skid surfaces with toe kicks are designed into the service areas.
- Maintain three points of contact at all times through ground level or platform accessible service areas.







Visibility

- Optional rearview camera with in-cab monitor increases operator awareness around the machine.
- Standard cab mounted LED warning strobes

Operator Environment

- Reduced vibrations to the operator with isolated cab mounts and seat mounted implement and steering controls.
- Low interior sound levels
- Pressurized cab with filtered air
- Standard 76 mm (3 in) seat belts on the operator seat



Reducing the Impact to the Environment

The 824K is designed and built with sustainability in mind.

- Engine Idle Shutdown can help you save fuel by avoiding unnecessary idling.
- Reduce waste to the environment with our maintenance free batteries.
- Built for multiple lives, the Cat 824 is one of the most rebuilt products to achieve the second and third life to get the most value from your investment. To assist with maximizing machine life, Caterpillar provides a number of sustainable options such as our Reman and Certified Rebuild programs. In these programs, reused or remanufactured components can deliver cost savings of 40 to 70 percent, which lowers operating cost while benefiting the environment.
- Caterpillar offers retrofit packages to bring new features to older machines, maximizing your resource. And, when you go through the Cat Certified Rebuild program, these retrofit kits are part of the rebuild process.

Blades

Cat blades to match your customers dozing requirements.



Straight Blade



Universal Blade



Semi-Universal Blade



Cat Blades

Cat blades are resilient, durable and designed with excellent dozing and rolling characteristics.

- Capacities and widths are set to achieve increased productivity.
- Spreading design allows for spreading of cover material, as well as dozing
 of heavier loads.

Straight Blade

The straight blade (5.0 m³/6.6 yd³) is designed for production dozing in stockpile material and general earthmoving.

Universal Blade

The universal blade (7.7 m³/10.0 yd³) is designed to move large loads over long distances in mining applications.

Semi-Universal Blade

The characteristics of the straight and universal blades are combined into the semi-universal blade (7.7 $\,\mathrm{m}^3/10.0\,\mathrm{yd}^3$). It provides increased capacity with the addition of short wings which include only the dozer end bits without sacrificing spreading characteristics of straight blades.

Coal Blade

The coal blade ($16.2 \, \text{m}^3/21.1 \, \text{yd}^3$) is designed for precise and productive dozing while helping to retain load control with increased capacity for lighter materials. Wing angles help retain the load while dozing.

Assemblies

The blades are combined with bulldozer assemblies which consist of the push arms, hydraulic lift, tip and tilt cylinders, trunnion mounting, stabilizer and hydraulic line guards.

Extended Wear Bulldozer Arrangement

The Extended Wear bulldozer arrangement is designed for moving large loads over long distances in harsh conditions. It consists of an 8.1 m³/10.7 yd³ U-blade with Abrasion Resistant Material (ARM) on the front and sides, cutting edges, push arm and integrated cylinder guards, and a heavy-duty stabilizer.

Other Available Options

See your Cat dealer for other blade options.



Data from customer machines show Cat Wheel Dozers are among the most fuel efficient machines in the industry. Several features contribute to this excellent fuel efficiency:

- ACERT Engine Advanced engine controls maximizes power and efficiency.
- Engine Idle Shutdown Automatic engine and electrical system shutdown conserves fuel.
- Lockup Torque Converter Transfers more power to the ground and optimizes fuel efficiency in all applications.
- Single Clutch Speed Shifting (SCSS) All new SCSS transmission controls provides greater momentum on grades and fuel savings by carrying that momentum through the shift points.
- Fuel Tank Capacity minimum of 12 hours operation depending on the application.

Machine configuration, operator technique, and job site layout can impact fuel consumption.

 Machine Configuration – Select the correct blade configuration based on your individual application.

Engine				
Engine Model	Cat C15 ACERT			
Emissions	U.S. EPA T	ier 4 Final/		
	EU Stage IV Final or U.S. EPA Tier 3/			
	EU Stage IIIA equivaler			
Rated Power (Net SAE J1349)	302 kW	405 hp		
Rated Power (Net ISO 9249)	302 kW	405 hp		
Gross Power	324 kW	435 hp		
Net Power				
Direct Drive – Gross Power	307 kW	412 hp		
Direct Drive – Torque Rise	33%			
Converter Drive – Gross Power	324 kW	435 hp		
Converter Drive – Torque Rise	8.5%			
Maximum Net Torque @ 1,300 rpm	2005 N·m	1,478.8 lbf-ft		
Maximum Altitude without Derating	2834 m	9,298 ft		
(Tier 4 Final/Stage IV equivalent)				
Maximum Altitude without Derating	2773 m	9,098 ft		
(Tier 3 Final/Stage IIIA equivalent)				
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	2,300 rpm			
Low Idle Speed	800 rpm			
Operating Specifications				
Maximum Operating Weight – Multiple Blade				
Straight Blade (Tier 4 Final/Stage IV equivalent)	34 004 kg	74,966 lb		
Straight Blade (Tier 3 Final/Stage IIIA equivalent)	33 558 kg	73,983 lb		

Transmission		
Transmission Type	Planetary – ECPC	- Powershift –
Travel Speeds		
Forward 1	6.2 km/h	3.9 mph
Forward 2	11.1 km/h	6.9 mph
Forward 3	19.6 km/h	12.2 mph
Forward 4	34.8 km/h	21.6 mph
Reverse 1	7.1 km/h	4.4 mph
Reverse 2	12.6 km/h	7.8 mph
Reverse 3	22.4 km/h	13.9 mph
Reverse 4	39.7 km/h	24.7 mph
Hydraulic System		
Pump Flow at 1,800 rpm	117 L/min	30.9 gal/min
Main Relief Pressure	24 100 kPa	3,495 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
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 IV equivalent)	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

 All non-road U.S. EPA Tier 4 Final, EU Stage IV, and Japan 2014 (Tier 4 Final) diesel engines are required to use:

134 L

35.4 gal

Hydraulic Tank Only

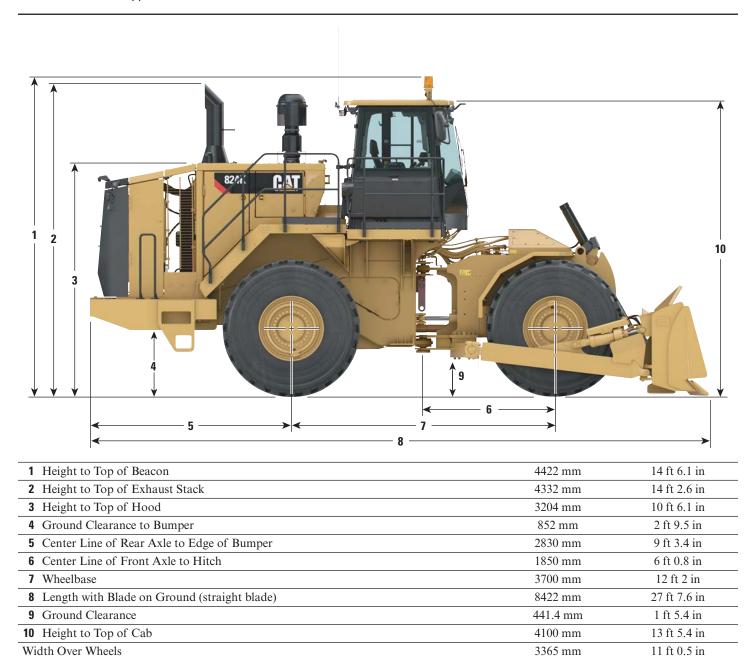
- Ultra Low Sulfur Diesel (ULSD) fuels containing 15 ppm (mg/kg) sulfur or less. Biodiesel blends up to B20 are acceptable when blended with 15 ppm (mg/kg) sulfur or less ULSD and when the biodiesel feedstock meets ASTM D7467 specifications.
- Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specifications are required.
- Diesel Exhaust Fluid (DEF) that meets all requirements defined in ISO 22241-1.

Axles				
Front	Planetary – Fixed			
Rear	Planetary – Oscillating			
Oscillation Angle	±11°			
Brakes				
Parking Brake	Drum and Shoe, Spring Applied, Hydraulic Released			
Cab				
	Standard	Suppression		
Operator Sound Level (ISO 6396)	73 dB(A)	72 dB(A)		
Machine Sound Level (ISO 6395)	113 dB(A)	110 dB(A)		

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	Piston – Variable Displacement		
Maximum System Flow	170 L/min @ 1,800 rpm	44.9 gal/min @ 1,800 rpm	
Steering Pressure Limited	24 000 kPa	3,481 psi	
Vehicle Articulation Angle	86 degrees		

Dimensions

All dimensions are approximate.



Blade Selection

	Capacity	Width Over End Bits	Height	Dig Depth	Ground Clearance	Maximum Tilt	Turning Radius – Outside Corner of Blade	Turning Radius – Inside Corner of Blade
Straight	5.0 m^3 (6.6 yd ³)	4507 mm (177.4 in)	1230 mm (48.4 in)	448 mm (17.6 in)	1057 mm (41.6 in)	1167 mm (45.9 in)	6002 mm (19 ft 8.3 in)	1892 mm (6 ft 2.5 in)
Straight Push Plate	5.0 m ³ (6.6 yd ³)	4507 mm (177.4 in)	1230 mm (48.4 in)	448 mm (17.6 in)	1057 mm (41.6 in)	1167 mm (45.9 in)	6002 mm (19 ft 8.3 in)	1892 mm (6 ft 2.5 in)
Semi-Universal	7.7 m ³ (10.0 yd ³)	4421 mm (174.1 in)	1551 mm (61.1 in)	477 mm (18.8 in)	1068 mm (42 in)	1120 mm (44.1 in)	6051 mm (19 ft 10.2 in)	1777 mm (5 ft 10 in)
Universal	7.7 m ³ (10.0 yd ³)	4352 mm (171.3 in)	1350 mm (53.1 in)	461 mm (18.1 in)	1051 mm (41.4 in)	1132 mm (44.6 in)	6104 mm (20 ft 0.3 in)	1828 mm (6 ft 0 in)
Coal	16.2 m ³ (21.2 yd ³)	4798 mm (189 in)	1745 mm (68.7 in)	472 mm (18.6 in)	1072 mm (42.2 in)	1242 mm (48.9 in)	6408 mm (21 ft 0.3 in)	1819 mm (15 ft 11.6 in)
Extended Wear	8.1 m ³ (10.6 yd ³)	4357 mm (171.6 in)	1350 mm (53.1 in)	461 mm (18.1 in)	1051 mm (41.4 in)	1132 mm (44.6 in)	6104 mm (20 ft 0.3 in)	1638 mm (5 ft 5 in)

Standard Equipment

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

POWER TRAIN

- · Air to air aftercooler
- Auto shift
- Brakes, full hydraulic, enclosed, wet multiple disc service brakes
- Cat clean emission module (Tier 4 Final/Stage IV equivalent)
- Electro-hydraulic parking brake
- Electronic Clutch Pressure Control (ECPC)
- Engine, Cat C15 with ACERT Technology
- -U.S. EPA Tier 4 Final/EU Stage IV equivalent
- -U.S. EPA Tier 3/EU Stage IIIA equivalent
- Fuel priming pump (electric)
- · Fuel to air cooler
- Ground level engine shutoff
- Hydraulically driven demand fan
- Integrated braking system
- Muffler (under hood) (Tier 3/Stage IIIA equivalent)
- Radiator, Aluminum Modular (AMR)
- Separated cooling system
- Single Clutch Speed Shifting (SCSS)
- Starting aid (ether) automatic
- · Throttle lock
- Torque converter with Lock Up Clutch (LUC)
- Transmission, planetary, with 4F/4R speed range control

ELECTRICAL

- · Alarm, back-up
- Alternator, 150 amp
- Batteries, maintenance-free (4 1,000 CCA)
- Electrical system, 24V
- Ground level lockable master disconnect switch
- Light, warning switched (LED strobe)
- · Lighting, access stairway
- Lighting system, halogen (front and rear)
- Lights, directional (rear)
- Starter, electric (heavy duty)
- · Starting receptacle for emergency start

OPERATOR ENVIRONMENT

- 12V power port for mobile phone or laptop connection
- Air conditioner
- · Cab, sound-suppressed pressurized
- Cab door, sliding window (LH)
- Cab Integrated Object Detection System (CIODS) ready
- Coat and hard hat hooks
- Electro-hydraulic tilt and lift controls
- Finger tip shifting controls
- Flip-up armrest
- · Heater and defroster
- · Horn, electric
- Implement hydraulic lockout
- Instrumentation, gauges
- -DEF fluid level (Tier 4 Final/Stage IV)
- -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
- · Laminated glass
- · Light, (dome) cab
- Lunch box and beverage holders
- Internal four-post rollover protective structure (ROPS/FOPS)
- Mirror, internal (panoramic)
- Mirrors, heated ready
- Mirrors, rearview (externally mounted)
- Radio ready for entertainment
- -Antenna
- -Speakers
- -Converter (12V, 10-15 amp)
- Seat, Cat Comfort (cloth) air suspension
- Seat belt with minder, retractable, 76 mm (3 in) wide
- STIC control system with lockout
- · Sun visor, front

- · 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)

GUARDS

- · Guard, driveshaft
- Guards, crankcase and power train

FLUIDS

• Antifreeze, premixed 50% concentration extended life (–34° C/–29° F)

OTHER STANDARD EQUIPMENT

- Doors, service access (locking)
- Ecology drains for engine, radiator, transmission, hydraulic tank
- Emergency platform egress
- Engine, crankcase, 500 hour interval with CJ-4 oil
- Engine idle management features
- Auto idle kickdown
- Delayed engine shutdown
- -Engine idle shutdown
- Fire suppression ready
- · 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
- Oil change system, high speed
- Oil sampling valves
- Product Link
- · Secondary steering
- Stairway, left and right rear access
- Steering, load sensing
- Toe kicks
- Total hydraulic filtration system
- Vandalism protection caplocks
- Venturi stack

824K Standard Attachments

Standard Attachments

Standard attachments may vary. Consult your Cat dealer for details.

FUEL SYSTEMS

- Fuel Tank
- -Standard or fast fill

HYDRAULICS

- Hydraulics
- -Standard or EU and Canada

OPERATOR ENVIRONMENT

- Glass (window)
- Standard bonded or rubbermounted glass
- Precleaner cab
- -Standard or powered

POWER TRAIN

- Axles
- Standard front and rear or standard front/no-spin rear

SPECIAL ARRANGEMENTS

- Engine
- -Sound suppression
- Engine Precleaners
- Turbine or dual stage

TECHNOLOGY PRODUCTS

- Product Link
- Cellular, satellite

TIRES, RIMS, AND WHEELS

- Tires
- Michelin, Bridgestone, rims only

OTHER ATTACHMENTS

- Fenders
- -Standard or roading
- Bulldozer Assemblies
- -Standard or extended wear
- Fluids Hydraulic Oil
- -Standard or arctic

824K Optional Equipment

Optional Equipment

Optional equipment may vary. Some options may be included/excluded in arrangement packages. Consult your Cat dealer for details.

OPERATOR ENVIRONMENT

- · Camera, rear vision
- Radio, AM/FM/AUX/USB/BLUETOOTH
- Radio, CB (ready)

STARTING AIDS

- Heater, engine coolant, 120V
- Heater, engine coolant, 240V

BLADES

- Blade, Straight
- Blade, Straight with Push Plate
- Blade, Semi-U
- Blade, U
- Blade, Extended Wear U
- Blade, Coal U

FLUIDS

• Antifreeze, -50° C (-58° F)

OTHER ATTACHMENTS

- Counterweight, Front
- Tire Pressure Monitoring System

MISCELLANEOUS

- Film (ANSI) (Tier 4 Final/Stage IV equivalent)
- EU certification (Tier 4 Final/Stage IV equivalent)
- Plate year of manufacture (Tier 3/Stage IIIA equivalent)

Notes

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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