815K **Soil Compactor**





Engine Model Cat[®] C7.1 ACERT™: configured for

two emissions options

Emissions 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

Tier 4 Final/ Tier 3/

Stage IV Stage IIIA equivalent

Maximum Net Torque

Gross Power (SAE J1995)

@ 1,400 rpm

212 kW/284 hp 213 kW/286 hp 1219 N·m/899 lbf-ft 1016 N·m/749 lbf-ft

Operating Specifications

Tier 4 Final/ Tier 3/ Stage IV Stage IIIA equivalent 22 108 kg/48,740 lb Operating Weight 22 386 kg/49,353 lb

Lower your operating cost with industry leading efficiency.

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Cat Soil Compactors are designed with durability built in, ensuring maximum availability through multiple life cycles. With optimized performance and simplified serviceability, our machines allow you to operate more efficiently and safely.

Representing a long-standing commitment to quality and performance, this rugged, powerful machine is designed and built for heavy-duty compaction and dozing operations. Focused on helping our customers succeed, we have continued to build upon each new series. The 815K 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.



Advanced Productivity Electronic Control System (APECS)

The new APECS is designed to improve transmission shifting performance, providing a higher level of comfort for the operator and increasing productivity.

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.





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

Steering System

Confident machine operation starts with precise machine control enabled by the 815K's load sensing hydraulic steering system.

- Increase efficiency with our variable displacement piston pumps
- Achieve precise positioning for easy loading in tight areas with 42 degrees each way of steering articulation
- Enhance operator comfort with integrated steering and transmission control functions
- Smoother, faster cycles help reduce operator fatigue through the use of Steering and Transmission Integrated Control System (STIC™)





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



The 815K is specifically designed and made with purpose built structures to remain safe and durable for the long run. Advanced design, materials and robotic welding contribute to increased durability and overall machine strength.

Engine and Power Train

Operate more efficiently with improved power and control.



Engine and Emissions

The Cat C7.1 ACERT engine is designed for maximum fuel efficiency and increased power density. Two engine options are available to meet Tier 4 Final/ Stage IV or Tier 3/Stage IIIA equivalent emission standards. This engine features innovative Cat electronics, fuel injection process, air-management systems and aftertreatment solution with Cat Selective Catalytic Reduction. While in operation, the aftertreatment will be seamless to the operator thanks to the passive regeneration system which is utilized.

Efficient Systems and Components

Innovative systems intelligently lower the average working engine speeds and reduce the overall system heat loads which result in significantly improved performance and fuel efficiency.

Advanced Systems with Innovative Integration

The deep system integration of the new engine and emissions system, power train, hydraulic system and cooling system result in lower fuel consumption on average compared to previous models.

Diesel Exhaust Fluid (DEF)

Cat engines equipped with an SCR system inject DEF into the exhaust to reduce NO_X emissions. DEF is a precisely mixed solution of 32.5% high purity chemical grade urea and 67.5% de-ionized water. DEF used in Cat SCR systems must meet the requirements outlined in the International Organization for Standardization (ISO) standard 22241-1.

Next Generation Fuel Systems

Cat injection timing precisely controls the fuel injection process through a series of carefully timed microbursts, providing more control of combustion for the cleanest, most efficient fuel burn. On the 815K the high pressure common rail fuel systems boost performance and reduce soot for the C7.1 ACERT engine.

Cat NO_X Reduction System

The Cat NO_X Reduction System (NRS) captures and cools a small quantity of exhaust gas, then routes it back into the combustion chamber where it drives down combustion temperatures and reduces NO_X emissions.

Aftertreatment Technologies

To meet the additional 80% reduction in NO_X emissions required by Tier 4 Final/Stage IV emission standards, one new system, the Selective Catalytic Reduction (SCR), has been added to the already proven Cat Tier 4 Interim/ Stage IIIB aftertreatment solution.

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 Advanced Productivity Electronic Control System (APECS).
- Long life and reliability through heat treat gear and metallurgy.
- Three forward and three reverse speeds to match your application.

Tamping Wheels and Tips

The heart of any compaction system.







Chevron Tamping Tip Design

The modified chevron tamping wheel tip design provides greater ground pressure, more compaction, excellent traction and a smooth ride.

Compaction

Compaction is achieved from the bottom of the lift to the top. The tapered tips walk out of the lift without "fluffing" the soil. The top of the lift is compacted and the surface is relatively smooth and sealed so hauling units are able to maintain a high speed when traveling over the fill. The 815K travel speed allows four forces of compaction: pressure, manipulation, impact and vibration. Since the 815K can also spread fill, the number of spreader tractors may be able to be reduced.

Symmetrical Tamping Tip Pattern

Equal compaction in forward or reverse is the result of the symmetrical tamping tip pattern. Tips are full perimeter and replaceable. The tip is welded to a base assembly, which then is welded directly to the drum.

Cleaner Bars

Each wheel has two cleaner bars to keep the drums free of carryover dirt, regardless of rolling direction so efficiency is maximized.

Cleaner bars are available with standard or abrasive tips depending upon the application.

Adjustable Cleaner Bar Tip

The adjustable cleaner bar tips are heat-treated and direct hardened, cutting edge steel to increase wear life, which translates into lower operating costs.

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



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



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

Operator StationBest-in-class operator comfort and ergonomics.



Steering and Transmission Integrated Control System (STIC™)

Enter and exit the cab easily and safely with a new fold up STIC armrest.

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





Integrated Technologies

Monitor, manage, and enhance 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 offers improvements in these key areas:



EQUIPMENT

Equipment Management – increase uptime and reduce operating costs.



Productivity – monitor production and manage job site efficiency.



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



COMPACT Technologies

COMPACT technologies combine advanced compaction measurement, in-cab guidance and reporting capabilities to help you consistently meet compaction targets fast, uniformly, and in fewer passes – saving on fuel and the cost of unnecessary rework.

Cat Compaction Control

The factory Cat Compaction Control system uses Machine Drive Power (MDP) technology to measure rolling resistance and correlates it with soil stiffness. MDP works in both cohesive or granular soils. Optional 3D mapping system maps compaction measurements to the precise location the operator is working, providing a real-time view of progress, and a record of compaction uniformity.





LINK Technologies

LINK technologies wirelessly connect you to your equipment, giving you valuable insight into how your machine or fleet is performing so you can make timely, fact-based decisions that can boost job site efficiency and productivity.

Product Link™/VisionLink®

Product Link is deeply integrated into your machine, giving you access to timely information like machine location, hours, fuel usage, idle time and event codes via the online VisionLink user interface can help you effectively manage your fleet and lower operating costs.

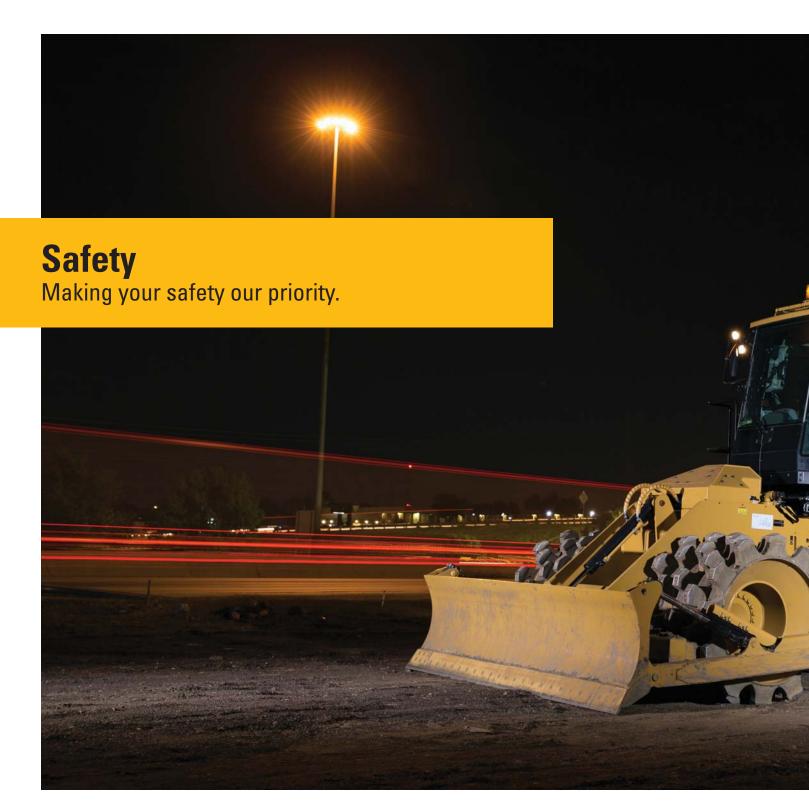


DETECT Technologies

DETECT technologies help keep people and equipment safe by enhancing operator awareness of the work area around working equipment and by monitoring and reporting unsafe conditions, like avoidance zones.

Rear Vision Camera

A rear vision camera greatly enhances visibility behind the machine to help the operator work more productively. Work with greater confidence and at peak potential while keeping people and assets safe.



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

- Railings, ladders and non-slip surfaces enhance technician and operator safety
- Maintain three points of contact at all times through ground level or platform accessible service areas







Visibility

- Rearview camera with in-cab monitor increases operator awareness around the machine
- Standard cab mounted LED warning strobes
- Optional heated mirrors ensure enhanced visibility for safe operation
- Optional LED lights provide excellent workspace visibility

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

Sustainability

Stewards of the environment.



Reducing the Impact to the Environment

The 815K is an efficient, productive machine that's designed to conserve our natural resources for generations ahead.

- Engine Idle Shutdown can help you save fuel by avoiding unnecessary idling.
- Reduce waste to the environment with our maintenance free batteries.
- The high speed oil change is standard and ensures fast, easy, and secure changing of the engine oil.
- The 815K is built to be rebuilt with major structures and components capable of being remanufactured to reduce waste and replacement costs.

Serviceability

Enabling high uptime by reducing your service time.

We can help you succeed by ensuring your 815K has design features to reduce your downtime.

- Safe and convenient service with ground level or platform access to daily 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 spills.
- 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.
- Hydraulic oil cooler, air conditioner condenser, and fuel cooler grouped together for ease of access.
- Side access doors provided for cleanout of the cooling package.
- A new ground level service area includes a Master Disconnect Switch with integrated lock-out/tag-out, DEF purge lamp (Tier 4 Final/Stage IV machines only), circuit breakers, emergency fuel shutoff switch and the jump start receptacle.
- Centralized grease points for convenient maintenance.



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



Operating Costs

Save time and money by working smart.

Data from customer machines show Cat Soil Compactors 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.
- Advanced Productivity Electronic Control System (APECS) All new APECS 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.

815K Soil Compactor Specifications

Engine			
Engine Model	Cat C7.1 ACERT: configured for		
		two emissions options Tier 4 Final/Stage IV	
Rated Power (SAE J1349)	185 kW	248 hp	
Rated Power (Net ISO 9249)	185 kW	248 hp	
Gross Power (SAE J1995)	212 kW	284 hp	
Gross Power (ISO 14396)	204 kW	274 hp	
Maximum Net Torque @ 1,400 rpm	1219 N·m	899 lbf-ft	
Torque Rise	52%	077 101 11	
101440 1100	Tier 3/Stage III		
Rated Power (SAE J1349)	186 kW	249 hp	
Rated Power (Net ISO 9249)	186 kW	249 hp	
Gross Power (SAE J1995)	213 kW	286 hp	
Gross Power (ISO 14396)	205 kW	275 hp	
Maximum Net Torque @ 1,400 rpm	1016 N·m	749 lbf-ft	
Torque Rise	26%		
Maximum Altitude without Derating	3000 m	9,842.52 ft	
Bore	105 mm	4.1 in	
Stroke	135 mm	5.3 in	
Displacement	7.01 L	427.8 in ³	
High Idle Speed	2,270 rpm		
Low Idle Speed	800 rpm		
Operating Specifications			
Maximum Operating Weight	22 386 kg	49,353 lb	

Operating Specifications		
Maximum Operating Weight (Tier 4 Final/Stage IV)	22 386 kg	49,353 lb
Maximum Operating Weight (Tier 3/Stage IIIA equivalent)	22 108 kg	48,740 lb

Transmission		
Transmission Type	Planetary – ECPC	Powershift –
Travel Speeds		
Forward – First	6.7 km/h	4.2 mph
Forward – Second	12 km/h	7.5 mph
Forward – Third	21.2 km/h	13.2 mph
Reverse – First	7.7 km/h	4.8 mph
Reverse – Second	13.7 km/h	8.5 mph
Reverse – Third	24.2 km/h	15 mph

Hydraulic System		
Pump Flow at 2,111 rpm	89 L/min	23.5 gal/min
Main Relief Pressure	22 000 kPa	3,190 psi
Maximum Supply Pressure	20 200 kPa	2,930 psi
Lift Cylinder, Double-acting: Bore and Stroke	101.6 mm × 627 mm	4 in × 24.7 in
Tilt Cylinder, Double-acting: Bore and Stroke	101.6 mm × 167 mm	4 in × 6.6 in
Service Refill Capacities		
Cooling System – Tier 4 Final/Stage IV	81 L	21.4 gal
Cooling System – Tier 3/Stage IIIA equivalent	73 L	19.3 gal
Engine Crankcase	20 L	5.3 gal
Transmission	56 L	14.8 gal
Fuel Tank	500 L	132.1 gal
Diesel Exhaust Fluid Tank (Tier 4 Final/Stage IV only)	16 L	4.2 gal
Differentials and Final Drives – Front	65 L	17.2 gal
Differentials and Final Drives – Rear	65 L	17.2 gal

 All non-road Tier 4 Final and Stage IV diesel engines are required to use:

75 L

19.8 gal

Hydraulic Tank Only

- Ultra Low Sulfur Diesel (ULSD) fuels containing 15 ppm for EPA and 10 ppm for EU (mg/kg) sulfur or less. Biodiesel blends up to B20 are acceptable when blended with 15 ppm for EPA and 10 ppm for EU (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	±10°
Brakes	
Parking Brake	Drum and Shoe, Spring Applied, Hydraulic Released

815K Soil Compactor Specifications

Cab			
	Standard	Suppression	
Operator Sound Level (ISO 6396)	71 dB(A)	70 dB(A)	
Machine Sound Level (ISO 6395) Tier 4/Stage IV	111 dB(A)	109 dB(A)	
Machine Sound Level (ISO 6395) Tier 3/Stage IIIA equivalent	112 dB(A)	110 dB(A)	
Hardward's Contain Ottomic			

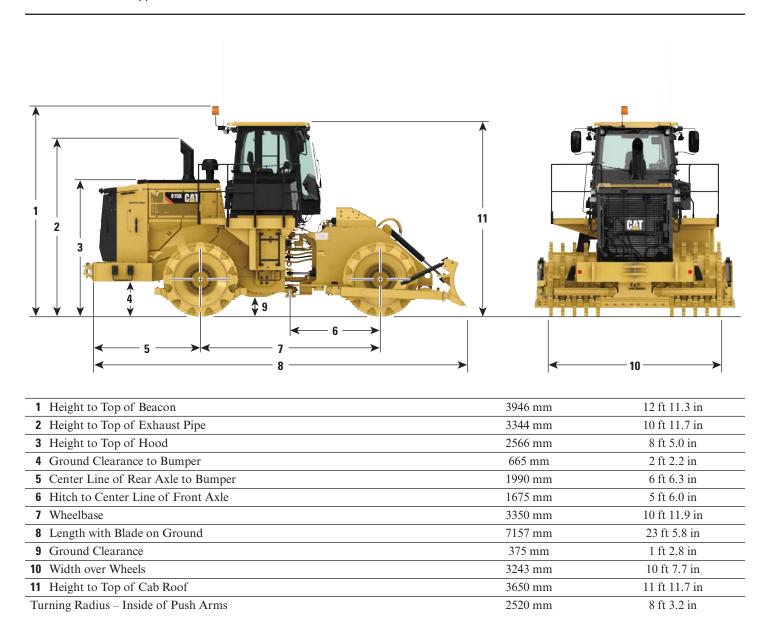
Hydraulic System – Steering			
Steering System – Circuit		Closed Center Load Sensing	
Bore	101.6 mm	4.0 in	
Stroke	597 mm	23.5 in	
Steering System – Pump		Piston – Variable Displacement	
Maximum System Flow	147 L/min @ 2,111 rpm	38.8 gal/min @ 2,111 rpm	
Steering Pressure Limited	27 600 kPa	4,003 psi	
Vehicle Articulation Angle	84 degrees		

Blades		
Width – Moldboard Length	3652 mm	11.98 ft
Height Including Cutting Edge	860 mm	2.82 ft
Maximum Depth of Cut	222 mm	0.73 ft
Maximum Lift Above Ground	802 mm	2.63 ft
Blade Tilt Angle – Right – Hydraulic	4.8°	
Blade Tilt Angle – Left – Hydraulic	5.5°	
Blade Tilt Adjustment – Right	305 mm	1 ft
Blade Tilt Adjustment – Left	346 mm	1.14 ft
Total Tilt Adjustment	651 mm	2.14 ft
Width Over End Bits	3761 mm	12.34 ft
Wheels		
Weight	4409 kg	9,720 lb
Outside Diameter	1412 mm	4 ft 8 in
Drum Diameter	1029 mm	3 ft 5 in
Drum Width	991 mm	3 ft 3 in
Tips per Wheel	60	
Width over Drums	3243 mm	10 ft 8 in

815K Soil Compactor Specifications

Dimensions

All dimensions are approximate.



815K Standard Equipment

Standard Equipment

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

POWER TRAIN

- Advanced Productivity Electronic Control System (APECS)
- · Air to air aftercooler
- Brakes, full hydraulic, enclosed, wet multiple disc service brakes
- Cat clean emission module (Tier 4 Final/Stage IV only)
- Electro-hydraulic parking brake
- Electronic Clutch Pressure Control (ECPC)
- Engine, Cat C7.1 with ACERT Technology: configured for two emissions options
- -Tier 4 Final/Stage IV
- -Tier 3/Stage IIIA equivalent
- Engine driven cooling fan suction
- Fuel priming pump (electric)
- · Fuel to air cooler
- Ground level engine shutoff
- Muffler (under hood) (Tier 3/Stage IIIA equivalent only)
- · Radiator, unit core
- Starting aid (ether)
- · Throttle lock
- Torque converter
- Transmission, planetary, with 3F/3R speed range control

ELECTRICAL

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

OPERATOR ENVIRONMENT

- 12V power port for mobile phone or laptop connection
- AccuGrade™ mapping (ready)
- Air conditioner
- · Cab, sound-suppressed pressurized
- Cab door, sliding window (LH)
- Cat Compaction Control (ready)
- Cat Detect: Object Detection (ready)
- · Coat and hard hat hooks
- Finger tip shifting controls
- Flip-up armrest
- · Heater and defroster
- · Horn, electric
- Hydraulic controls seat mounted
- Implement hydraulic lockout
- Instrumentation, gauges
- -DEF fluid level (Tier 4 Final/Stage IV only)
- -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
- Light, (dome) cab
- · Lunch box and beverage holders
- Mirror, internal (panoramic)
- 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
- Event indicator light on rear grill
- Wet-arm wipers/washers (front and rear)
- Intermittent wipers (front and rear)

TIRES, RIMS AND WHEELS

• Wheels, tamping foot

GUARDS

- · Cleaner bars with teeth
- Guards, crankcase and power train
- · Guard, driveshaft

FLUIDS

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

OTHER STANDARD EQUIPMENT

- DEF tank fill gauge
- Doors, service access (locking)
- Ecology drains for engine, radiator, transmission, hydraulic tank
- Engine, crankcase, 500 hour interval with CJ-4 oil
- Emergency platform egress
- Fire suppression ready
- Fuel tank, 500 L (132.1 gal)
- Hitch, drawbar with pin
- Hoses, Cat XTTM
- Hydraulic, engine, and transmission oil coolers
- · Oil change system, high speed
- Oil sampling valves
- · Steering, load sensing
- Total hydraulic filtration system
- Vandalism protection caplocks
- Venturi stack

815K Standard Attachments and Optional Equipment

Standard Attachments

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

HYDRAULICS

- · Hydraulics
- -Standard or EU and Canada

OPERATOR ENVIRONMENT

- Glass (window)
- Standard bonded or rubber-mounted glass
- Precleaner cab
- -Standard or powered
- Seat cab
- -Standard or heated and ventilated
- Mirrors cab
- -Standard or heated

POWER TRAIN

- Axles
- -Standard or non-spin rear

SPECIAL ARRANGEMENTS

- Engine Precleaners
- Turbine or dual stage

ELECTRICAL

- Lights
- -Standard or LED

FUEL SYSTEMS

- Fuel tank
- -Non-fast or fast fill

TECHNOLOGY PRODUCTS

- Product Link
 - -GSM, satellite

CLEANER BARS

- · Cleaner bars
- -Standard or abrasive

BLADES

- · Blades
- -Straight or tilt-straight

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)

TECHNOLOGY PRODUCTS

· Compaction control, basic

OTHER ATTACHMENTS

• Sound suppression (required for Brazil)

FLUIDS

• Antifreeze, -50° C (-58° F)

STARTING AIDS

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

MISCELLANEOUS

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

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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