# 796 AC LARGE MINING TRUCK



Engine: **Gross Power:**  C175-16

**Gross Weight: Nominal Payload:** 

2610 kW / 3,500 HP or 2312 kW / 3,100 HP 576 072 kg / 1,270,000 lb 327 tonnes / 360 tons



## CAT® LARGE MINING TRUCKS

## BETTER BOTTOM LINE

With a truck for every site or application—no matter the size class or drive system—and a broad lineup of loading tools, Caterpillar delivers a complete loading and hauling solution that delivers a better bottom line.





# WHAT CAN MINERS EXPECT FROM THEIR CAT MINING TRUCKS? THE LOWEST POSSIBLE COST PER TON OVER THE LIFE OF THE MACHINE.

A lot goes into delivering that value. Like high speed on grade for improved productivity. A class-leading standard payload. Rear-wheel electric retarding backed by anytime braking for more confident operators. Total Cat integration, which results in highly efficient systems and performance. And high reliability, so trucks spend more time hauling material than they do sitting in the maintenance shop.

#### WHAT WILL IT TAKE TO BOOST YOUR BOTTOM LINE?

The Cat® 796 AC electric drive truck is designed to haul more—with more efficiency, controllability and reliability than any other electric drive truck in the marketplace. And while it may be the newest addition to the Cat ultra-class lineup, it delivers the same powerful, proven performance you expect from a Cat truck.

The 796 AC delivers a payload up to 327 tonnes (360 tons), high speed on grade, easier maintenance, and excellent electric retarding and brake performance. The result? Improved productivity, high availability and more confident operators.

The 796 AC features a proven electric drive powertrain that is Caterpillar designed, integrated, supported and validated on sites around the world. It hauls more every load, every cycle and every shift. And it delivers a better bottom line to the most important mine in the world: yours.

# **CAT® 796 AC**

100% TARGET PAYLOAD HIGH GRADEABILITY SUPERIOR SERVICEABILITY



#### PROVEN IN THE FIELD

+ Frame design: 18M+ hours + C175 engine: 22M+ hours

+ Field validation: 60,000+ hours + Electric drive system: 7M+ hours

#### **UP TO 8% MORE TORQUE**

+ Cat TorqueBoost technology unlocks maximum drivetrain capability for working in the toughest conditions

#### **EXCEPTIONAL CONTROLLABILITY**

- + Strong dynamic retarding
- Robust design empowers operator to use oil-cooled brakes regardless of speed or payload

#### SUPERIOR SERVICEABILITY

- + Engine walkways
- + Service platforms
- + Modular components
- + Ground-level, grouped service points

#### PAYLOAD WITHOUT COMPROMISE

+ Delivers nominal rated payload for all truck configurations — including attachments

#### INCREASED TIRE LIFE AND TKPH

+ 327-tonne (360-ton) payload matched with 59/80 R63 tires lowers operating costs and improves tire performance

#### EASIER MAINTENANCE, LESS OFTEN

- + First overhaul life of 25,000 hours drives lower cost of ownership
- + Engine and dual bearing drive alternator can be serviced separately, eliminating shimming
- + Modular wheel motors and final drives enable service on individual components
- + Sealed and pressurized inverter cabinet requires no cleaning, eliminating recurring maintenance
- + Long-life radial grid with AC motor control and serviceable elements



## LOWERING COST PER TON

With offerings in both electric and mechanical drive and payloads ranging from 143 to 372 tonnes (157 to 410 tons), Caterpillar can offer a truck for every type of mining application. But one thing all the models have in common is the philosophy we follow in their design. Whatever measurement you use for material movement, our goal is to help you optimize that cycle — lowering cost per ton and delivering a better bottom line to your operation.





#### A PROVEN DESIGN PHILOSOPHY

When it comes to making Cat large mining trucks, we follow a proven design philosophy that focuses around five main areas:

- 1. MAKING A SUSTAINED INVESTMENT IN RESEARCH & DEVELOPMENT
- 2. INTEGRATING EVERY COMPONENT
- 3. DELIVERING IRON THAT PERFORMS
- 4. SUPPORTING PRODUCTS—
  AND PRODUCTIVITY
- 5. LISTENING TO OUR
  CUSTOMERS TO SPUR
  CONTINUOUS IMPROVEMENT

By following this philosophy—for every truck, every time—we ensure that you get what you expect from Caterpillar: the lowest cost per ton of any mining truck in the industry.

A PROVEN APPROACH TO R&D



A WORLD-CLASS TEAM OF ENGINEERS AND EXPERTS



A DISCIPLINED APPROACH TO DEVELOPMENT



MINING INDUSTRY FEEDBACK



TESTING AND VALIDATION OF EVERY MACHINE





#### **OPTIMIZED PAYLOAD**

The 796 AC delivers a true 327-tonne (360-ton) payload. Thanks to an efficient design, the class-leading payload is achieved regardless of local attachments.

#### **INTEGRATED POWER**

Deep integration of the Cat engine, AC drive system, hydraulics and machine controls helps the 796 AC deliver low operating costs. End-to-end visibility of all truck parameters enables Caterpillar to optimize fuel efficiency, speed on grade and parasitic loads across the operating range. This high level of integration also delivers excellent slow speed control within service areas as well as superior motor torque and acceleration pulling away from the shovel.

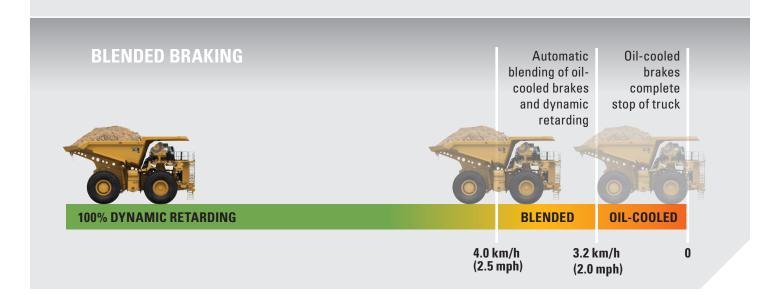


#### **DESIGNED FOR CONTROL**

Proven Cat braking systems deliver superior control so your operators can focus on productivity. The 796 AC features full dynamic retarding through a compact radial grid and is backstopped by the proven design of Caterpillar four-corner oil-cooled brakes. The result is stable handling and confident stopping.

- + Single-pedal electronic control allows the operator to focus on the haul road utilizing dynamic retarding for the first 80% of travel and oil-cooled brakes for the last 20% with automatic blending at low speeds.
- + Grid element thermal monitoring ensures component life by alerting operators if they are exceeding thermal capacity.

- + Automatic Retarding Control makes retarding easier and more efficient, ensuring the truck remains at the desired safe retarding speed.
- + Proven Cat oil-cooled brakes provide 100% anytime braking. They offer reliable, adjustment-free operation and are sized to provide ISO 3450 compliant performance independently from the dynamic retarding system.
- + The fully independent secondary brake system provides operators emergency controllability with a hydraulically actuated secondary brake pedal that serves as a backup to electronic controls.

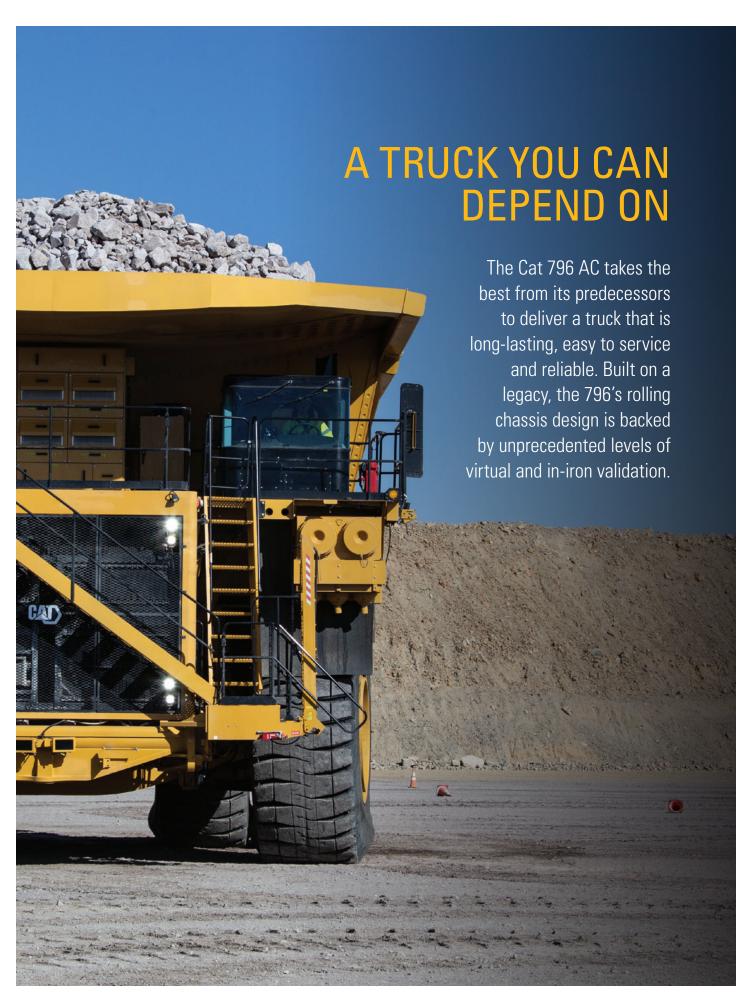






#### **DESIGNED FOR COMFORT**

The large, spacious cab is designed for all-day comfort, control and productivity. It features an ergonomic layout, excellent all-around visibility, and controls, levers and switches that are positioned for ease of use. The cab includes dozens of features designed to enhance comfort and reduce fatigue, such as climate control, reduced vibration and sound, and a next generation seat that includes a height adjuster; adjustable shoulder stock to keep the seatbelt from rubbing; and seat back, side and lumbar bolsters to increase stability.



#### STRONG BACKBONE

The 796 AC features a straight frame rail design — a scalable concept that has been used since 1990 and boasts over 18 million hours of field operation. The design eliminates the bends and breaks that can occur at stress concentrations.

- + The box section construction uses Caterpillar proprietary steel specification, which has very low sulfur content and provides excellent welding characteristics, plus outstanding durability.
- + Deep section main rails in critical areas of the frame lower stress levels, resulting in increased frame life.

- + The robust center cross tube integrates hoist cylinder and rear axle box attachment points at the strongest areas of the frame.
- + The rear axle box attaches to the frame through a lateral link, rear suspension cylinders and nosecone joint utilizing a replaceable spherical bearing and hardened pin.
- + The independent front axle isolates the frame from harsh haul road stresses, and ensures wheel alignment does not change under load.



#### **BUILT TO BE REBUILT**

Cat trucks are designed to last over 100,000 hours, with many going well beyond. The frame, powertrain, engine and components are built to be rebuilt — using new, remanufactured or rebuilt parts and components — so you can take advantage of multiple lives of likenew performance at a fraction-of-new price.

TO LAST

- OVER
100,000

H O U R S

# BUMPER-TO-BUMPER CATERPILLAR

The individual components, software, systems and engine that go inside a Cat 796 AC truck have different purposes, but they have one very important thing in common: They are all manufactured by Caterpillar and supported by the Cat dealer network. This integration

ensures that the entire truck—from body to bumper, engine to electronics—can be fully optimized to deliver the lower cost per ton.

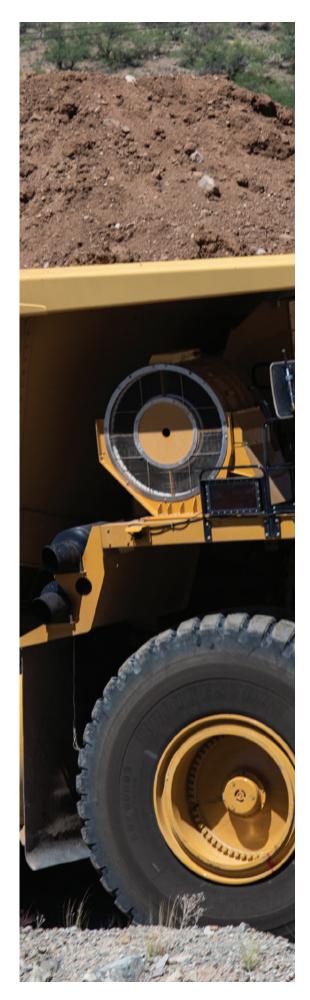
The Cat AC drive is a high voltage system (2,600 volts) that operates at lower current than most competitive trucks. When combined with Cat's total integration and design of the truck and drive system, the result is higher efficiency, lower heat generation, smaller and lighter components, and longer component life.



## PROVEN ELECTRIC DRIVE POWERTRAIN

The Cat AC electric drive powertrain is fully designed, integrated and supported by Caterpillar. The AC drive, engine and chassis systems work seamlessly together and leverage Caterpillar's leadership in electric power generation along with the proven components of EMD locomotives.

- Drive Alternator: The brushless alternator delivers long life and requires less maintenance.
   A dual bearing design enables service without removing the engine and eliminates timeconsuming shimming procedures.
- + **Inverter Cabinet**: The proprietary AC drive control cabinet is pressurized and filtered to reduce maintenance. It houses the evaporative-cooled modular IGBTs and motor controls.
- + **IGBTs:** Caterpillar's state-of-the-art modular design IGBTs deliver maximum AC drive system efficiency through high voltage and lower current.
- + **Retarding Grid:** The radial style grid features an AC electric motor that requires no regular motor maintenance. It is quieter, lighter, and offers better visibility than larger box-type grids.
- + **Traction Motors:** Separate from the final drives for increased serviceability, the modular design allows technicians to focus on the component in need, not components that are still performing.
- + **Final Drives:** Higher durability and lower rebuild costs are delivered by Caterpillar's ring gear output design with double reduction. This proven design has millions of hours of mining experience.
- + **Drivetrain Cooling:** The variable speed blower matches air flow to component need, not engine rpm. Optimized cooling delivers increased component life and higher speed on grade.



# **GET THE** RIGHT BODY FORTHE JOB

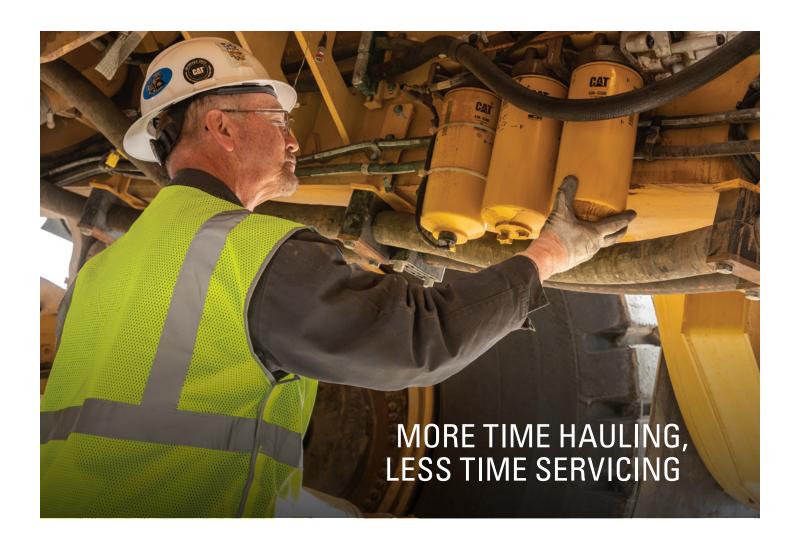
#### INTEGRATED BODY AND CHASSIS DESIGN

Integral to the truck, the body is designed to fit with the chassis and work as part of the truck system. Caterpillar bodies are sized to meet the payload requirements without compromise to vehicle balance, braking or control.

#### **HIGH-EFFICIENCY DUMP BODY**

The high-efficiency (HE) dump body is lightweight, simplified and durable. Featuring a unique, primarily bolsterless design, the HE body provides long life while minimizing weight for increased payload. The HE body is sized and configured to meet the specific needs of the mine, dictated by fragmentation, abrasion, cohesion and the loading tool.

- + The structural perimeter beam—along with curved floor, front wall and canopy—provides the natural strength and stiffness required to successfully operate in diverse mining applications.
- + High-strength base plates allow for a minimal wear package, resulting in lower weight.
- + The patented designs of the floating bolster and spring plate improve overall durability by allowing structural flexibility and avoiding welds in high stress areas.



The 796 AC was designed to reduce the time you spend on regular maintenance procedures. The standard Product Link™ Elite monitoring system delivers critical health and payload information in real-time, keeping performance at optimum levels and allowing advanced troubleshooting and planning to lower maintenance costs.

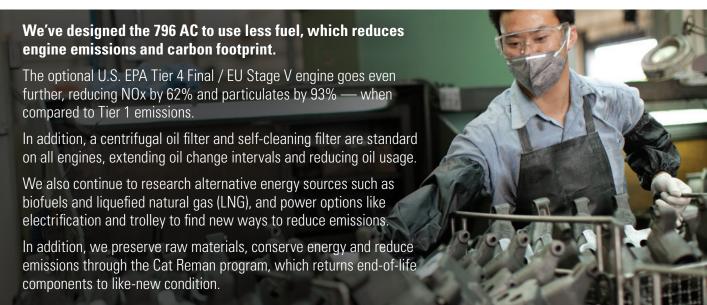
Enhanced serviceability and long service intervals help increase machine availability and productivity. And a target first overhaul life of 25,000 hours contributes to a lower overall cost of ownership.

#### Features include:

- Open engine access and platforms for service of engine, drive alternator and other truck systems
- + Ground-level filters and service points to enable increased technician efficiency
- + Service-friendly layout with minimized hydraulics on one frame rail, and cables and electrical wiring concentrated on the other
- + A modular design that enables the engine, drive alternator, wheel motors and final drives, inverter IGBTs, and radial grid quadrants to be easily serviced independently

- + AC grid blower motor designed for longer life and less maintenance
- + Sealed & pressurized inverter cabinet, which requires no cleaning and eliminates hundreds of hours of maintenance over the life of the truck
- + Extended oil change interval (up to 3 times) with standard engine equipment including Centrifugal Oil Filter (COF) and Self Cleaning Filter (SCF)







#### MORE POWER, LOWER COSTS

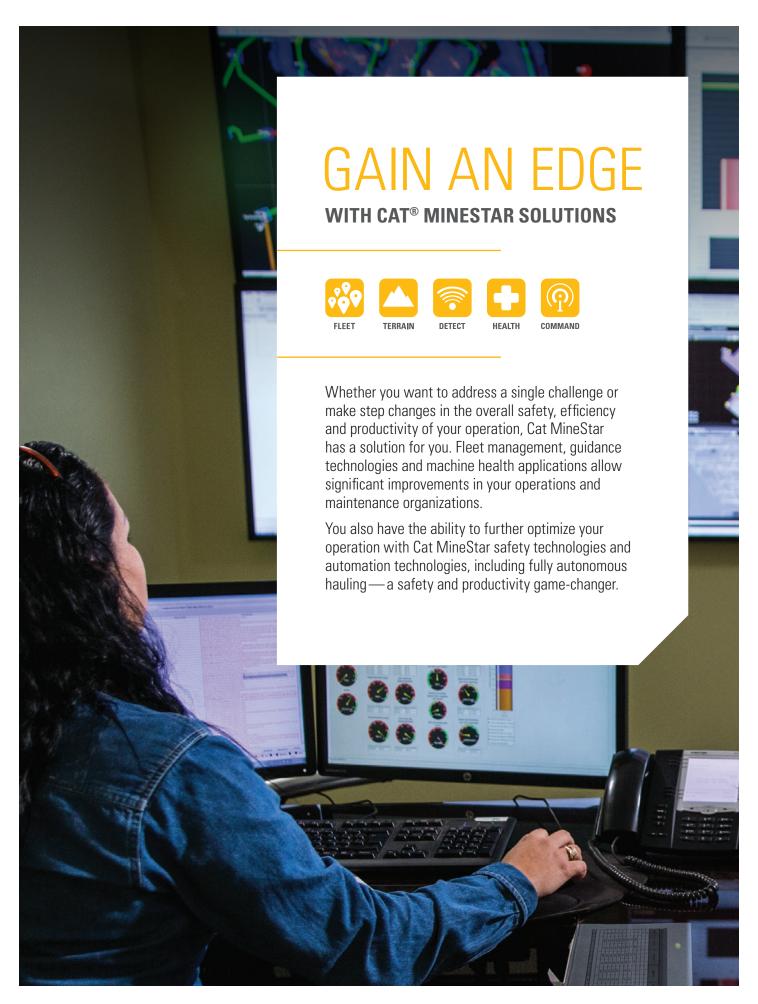
The 796 AC is powered by the C175-16 engine, which is available with two horsepower options and can be configured for U.S. EPA Tier 4 Final / EU Stage V regulations. More than 4,500 C175 engines are in operation around the world, with over 22 million hours of run time. Robust design delivers long life and the option to rebuild.

- + High displacement, low rpm rating and conservative horsepower ratings, which mean more time on the haul road and less time in the shop.
- + The Cat Common Rail Fuel System, which provides optimal fuel delivery to reduce both fuel consumption and emissions output.
- + Enhanced serviceability, with inlet manifolds and turbochargers that are located outside of the engine's V, giving the service technicians more space to work on top of the engine and within the engine bay.
- + Key technologies eliminate engine oil filter replacements and provide the potential to extend oil change intervals.

# THE INDUSTRY'S BEST EMISSIONS SYSTEM

The Cat 796 AC is available in a fuel-efficient configuration that meets U.S. EPA Tier 4 Final / EU Stage V emissions standards. Through over 360,000 hours of successful operation on Cat large mining trucks, the system has proven its ability to deliver with no impact on machine performance. Designed for easy serviceability with readily accessible components, the modular aftertreatment system reduces overall fluid and fuel consumption and is aligned with truck preventive maintenance intervals to maintain high availability. Lower fuel burn results in longer engine life and lower repair costs.

OVER
360,000
HOURS
OF SUCCESSFUL
OPERATION



#### **AUTONOMOUS HAULAGE**

The 796 AC is factory-ready for MineStar Command for hauling, an autonomous hauling solution. Hundreds of autonomous Cat trucks are currently in service, with over 2.4 billion tonnes hauled. Command enables near continuous utilization and has proven to increase productivity by more than 30%. Operators are completely removed from the environment for significant improvements in site safety.

PRODUCTIVITY
UP TO 30%

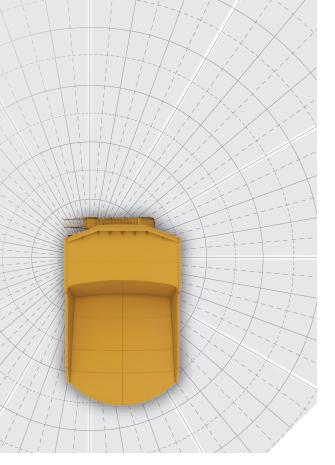






#### **SAFETY TECHNOLOGIES**

With the MineStar Detect proximity detection system, you can equip your 796 AC with cameras to give your operators a better view of what's happening around their equipment—or combine cameras and radar into a true object detection system that automatically alerts operators to hazards. You can even add satellite capabilities to provide proximity warnings and avoidance zones, and seat-belt monitoring that encourages operators to buckle up. The optional Cat Driver Safety System (DSS) is an in-cab system that intervenes when operator fatigue or distraction are detected.





### IN YOUR PERFORMANCE

Our commitment to your success doesn't end when your Cat 796 AC begins hauling overburden or ore. We immediately start looking for ways to make that truck work more efficiently, safely and productively. From addressing performance issues, to training operators and technicians, to calibrating onboard technologies — our support of your truck productivity is ongoing.



Caterpillar and Cat dealer personnel will partner with you on site to improve the performance not only of your trucks but of your overall loading and hauling operation. You'll have access to parts and service, and technicians who are focused on helping you optimize repairs to keep machines in the field rather than the maintenance shop. And we help with training to ensure your operators have the skills and knowledge they need to work as efficiently and productively as possible.

We also work alongside you to ensure you achieve maximum value throughout the life of your equipment. Together with our Cat dealer network, we customize service offerings to provide a maintenance solution that fits your operation—whether you want to perform the majority of service yourself, or you're looking for an onsite partner to manage your maintenance organization. We're also consultants who can help you make smart decisions about buying, operating, maintaining, repairing, rebuilding and replacing equipment.



#### BETTER LOADING BETTER HAULING

### BETTER BOTTOM LINE

With a truck for every site or application—no matter the size class or drive system—and a broad lineup of loading tools, Caterpillar delivers a complete loading and hauling solution that delivers the lowest cost per ton.

Trucks and loaders are ideally matched to optimize the loading and hauling cycle. Whether you choose a Cat electric rope shovel, hydraulic shovel or large wheel loader, or a mechanical drive or electric drive Cat truck, you'll find they all have one thing in common: They're Caterpillar, inside and out. From iron to engines, hydraulics to electronics, software to hardware, transmissions to ground engaging tools—systems are fully integrated and work together to deliver optimized performance and a better bottom line.









#### **TECHNICAL SPECIFICATIONS**

See cat.com for complete specifications.

ENGINE		
Engine Model	Cat® C175-16	
Gross Power – SAE J1995:2014	2610 kW	3,500 hp
Net Power – SAE J1349:2011	2539 kW	3,405 hp
Rated Speed	1,800 rpm	
Emissions Rating	Fuel Optimized	
Bore	175 mm	6.9 in
Stroke	220 mm	8.7 in
Displacement	85L	5,187 in <sup>3</sup>

- + Net Power advertised is the power available at the flywheel when the engine is equipped with air intake system, exhaust system, and alternator.
- + U.S. EPA Tier 4 Final / EU Stage V available for applicable markets.
- + Additional fuel optimized selectable power rating: 2312 kW / 3,100 hp

WEIGHTS – APPROXIMATE				
Rated Gross Machine Weight (RGMW)	576 072 kg	1,270,000 lb		
Chassis Weight (CW)	203 398 kg	448,415 lb		
Body Weight (BW)	38 833 - 42 907 kg	85,611 - 94,594 lb		
Nominal Rated Payload (NRP)	327 tonnes	360 tons		
+ Consult your tire manufacturer for maximum tire load				

- + Chassis weight with full fuel and fluids, standard & mandatory attachments, hoist, body mounting group, rims, and tires.
- + Refer to Cat Mining Truck 10/10/20 Overload Policy (AEXQ0250) for maximum gross machine weight limitations.

WEIGHT DISTRIBUTIONS – APPRO	XIMATE	
Front Axle – Empty	47%	
Rear Axle – Empty	53%	
Front Axle – Loaded	33%	
Rear Axle – Loaded 67%		
+ Weight distributions optimized with Cat body.		

AC DRIVE SYSTEM		
Total Reduction Ratio	35:1	
Top Speed – Loaded	64 km/h	40 mph
Generator/Alternator	Cat brushless, engine mounted, dual bearing	
Controls	Cat IGBT Inverter Technology, air cooled, pressurized cabinet with filtration	
Wheel Motor	Cat AC induction, rear axle mounted	
Cooling System	Cat variable speed, hydraulically driven cooling system	

TIRES & RIMS		
Tires	59/80 R63	
Rims	44" x 63"	

- + Quick Change Rims optional.
- + Caterpillar recommends the customer evaluate all job conditions and consult tire manufacturer for proper tire selection and TKPH (TMPH) capabilities.

BRAKIN	SYSTEM	
Service Brakes	Four-Corner, Wet Disc, Oil Cooled, Hydraulically Actuated	
Front Wet Disc Brake Surface Area	131 473 cm <sup>2</sup> 20,378 in <sup>2</sup>	
Rear Wet Disc Brake Surface Area	198 388 cm <sup>2</sup> 30,750 in <sup>2</sup>	
Standards (Service and Secondary	ISO 3450:2011	
	Four-corner, ti-disc, Spring applied, Hydraulically Released	
Load Brake – Rear service brakes		
Dynamic Retarding Power – Contin	ious 4086 kw 5,480 hp	
+ Anti-Lock Brake System (ABS) optional with CMD package		

CAPACITY – HE BODY – 1	00% FILL FACTOR	
Struck	97-153 m³	127-200 yd <sup>3</sup>
Heaped (SAE 2:1)	186-237 m <sup>3</sup>	243-310 yd <sup>3</sup>
+ Consult your local Cat dealer for body recommendations.		

BODY HOISTS				
Twin, two-stage hydraulic cylinders with snubbing valve				
Pump Flow – High Idle	964 L/min 257.3 gal/min			
Relief Valve Setting – Raise	20 884 kPa 3,029 psi			
Body Raise Time – High Idle	21 Seconds			
Body Lower Time – Float	22 Seconds			
Body Power Down – High Idle	17.5 Seconds			
Body Power Down – High Idle	17.5 Seconds			

- + Twin, two-stage hydraulic cylinders mounted outside main frame; double-acting cylinders in both stages.
- + Power raise in both stages; power down capability in both stages.
- + Automatic body-lower modulation reduces impact on frame.

SL	ıe	D	ER	IC	H	ni	M
30	J	г	EI	A O	ч	U	М

Self-contained nitrogen/oil cylinders, pin-to-pin mounting, top & bottom double shear clevis attachments

Effective Cylinder Stroke – Front	102.1 mm	4 in
Effective Cylinder Stroke – Rear	50.5 mm	2 in
Rear Axle Oscillation	+/- 5.32 degrees	

SERVICE REFILL CAPACITI	ES	
Fuel Tank	4922 L	1,300 gal
Fuel Tank (U.S. EPA Tier 4 Final / EU Stage V)	4542 L	1,200 gal
Diesel Exhaust Fluid (DEF) Tank	379 L	100 gal
Cooling System	799 L	211 gal
Crankcase	310 L	82 gal
Front Wheels, each	28 L	7 gal
Final Drives, each	254 L	67 gal
Hydraulic Tank	1121 L	296 gal
Hydraulic System (includes tank)	1458 L	385 gal
Grease Tank Capacity	41 kg	90 lb

CAB		
Air Conditioning (HFC – 134A refrigerant)	21,600 Btu/hr	
Heater / Defroster	24,600 Btu/hr	
+ Ambient capabilities down to -15°C (5°F) for heater/defroster and up		

- to 50°C (122°F) for air conditioning.

  + The operator sound pressure level, 75 dB(A), measured according to
- ISO 6394:2008 and ISO 6396:2008. + ROPS (Rollover Protective Structure) meets ISO 3471:2008 for
- ROPS (Rollover Protective Structure) meets ISO 3471:2008 for Operator and ISO 13459:2012 for Trainer.
- + FOPS (Falling Objects Protective Structure) meets ISO 3449:2005 Level II for Operator and ISO 13459:2012 Level II for Trainer.

STEERING		
Steer Angle	39 degrees	
Turning Diameter (ISO 7457:1997)	32.4 m	106.3 ft
Steering Standards	ISO 5010:2019	



# LARGE MINING TRUCK

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

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

© 2025 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Corporate Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

PEDJ0472-01 Replaces PEDJ0472-00 Build number: 01A

