

795F AC

LARGE MINING TRUCK



Engine: C175-16
Gross Power: 2535 kW / 3,400 HP
or 2312 kW / 3,100 HP
Gross Weight: 576 072 kg / 1,270,000 lb
Nominal Rated Payload: 338 tonnes / 372 tons



CAT® LARGE
MINING TRUCKS

DELIVERING A BETTER BOTTOM LINE

With a truck for every site or application — no matter the size class or drive system — and a complete 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. Anytime braking plus front and rear wheel retarding 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?

More confident operators, thanks to the best retarding, braking and control in the industry? An electric-drive power train that is designed, integrated and supported by one manufacturer? An electric-drive system that works seamlessly with the engine and machine hydraulics?

With the Cat® 795 AC, you get all of this — and more. Like increased speed on grade and more power to the ground to give operators exceptional control. A high-performance engine and best-in-class electric drive system for industry-leading productivity. Modular components and more ground-accessible maintenance points to increase machine availability. And the durability you expect from Caterpillar — so trucks cost less in their first life and can be rebuilt for multiple lives.

CAT® 795F AC

SUPERIOR
RETARDING.
BETTER
CONTROL.
PROVEN
ELECTRIC
DRIVE.



FIRST SINGLE-SOURCED ELECTRIC DRIVE TRUCK

- + 100% designed, validated and built by Caterpillar
- + Full support of Cat dealer and parts network

PROVEN 90% PHYSICAL AVAILABILITY

LONG-LIFE ENGINES & COMPONENTS

- + Many engines approaching 4.3 million liters / 1.1 million gallons of fuel burn
- + Engine life beyond 20,000 hours

UP TO 10% REDUCTION IN FUEL BURN

Thanks to improved efficiency

PAYLOAD ADVANTAGE

- + Lower empty weight
- + Higher-rated GMW
- + Higher-rated field payload than competitors

CAT ELECTRIC DRIVE TRUCKS: PROVEN AND WORKING AROUND THE WORLD

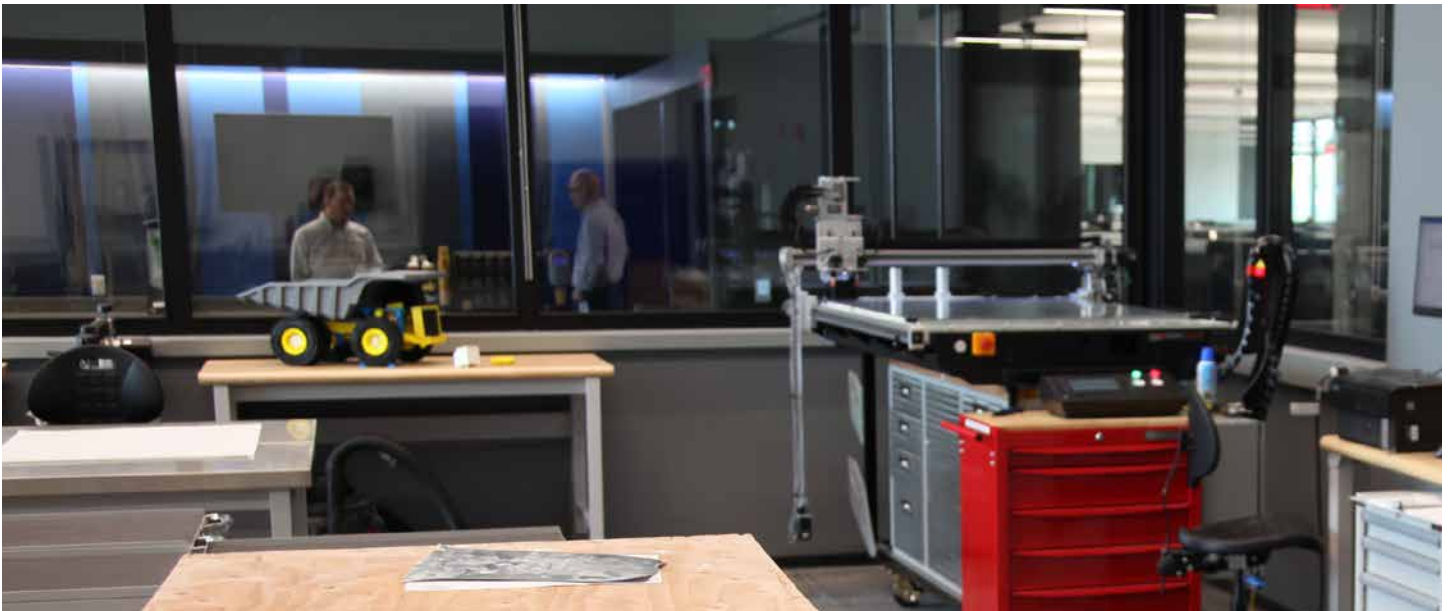
- + Over 5.5 million hours of field operation and powertrain validation
- + More than 60,000 hours on the highest-hour 795F AC
- + 5,300 C175 engines in operation with more than 63 million hours in machine applications



LOWERING COST PER TON

With offerings in both electric and mechanical drive and payloads ranging from 138 to 372 tonnes (152 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



CONFIDENT OPERATORS ARE PRODUCTIVE OPERATORS

DESIGNED FOR CONTROL

Proven Cat braking systems deliver superior control so your operators can focus on productivity. The 795F AC has the best braking of any electric-drive truck in the world. It features four-corner wet disc brakes with blended mechanical service brakes and dynamics for greater operator confidence. Automatic Retarding Control makes retarding easier and more efficient and helps ensure the truck remains in the dynamic retarding envelope.

- + Automatic four-corner blended braking with dynamics during low speed / stopping improves handling and machine control

- + Brake temperature monitoring ensures component life and alerts operators if they are exceeding retarding capability
- + The spring-applied secondary parking brake system enhances safety

The front and rear brakes are designed with large discs and plates for reliable and adjustment-free operation. They're enclosed and sealed to prevent contamination and provide long life while delivering exceptional braking at all speeds.

BLENDED BRAKING



100% DYNAMIC RETARDING



BLENDED

4.0 km/h
(2.5 mph)



OIL-COOLED

3.2 km/h
(2.0 mph)

0

Automatic blending of oil-cooled brakes and dynamic retarding

Oil-cooled brakes complete stop of truck

SAFETY-INFUSED



Radial Retard Grid for greater visibility

Rear inverter platform / engine and generator platforms

Integrated ROPS and FOPS
Interlock for park brake release without seatbelt secured

No park brake disc checks inside axle box

Machine lockout at ground level

Flat deck, toe kicks
600 mm ladders

100% LED lights standard

Front, wet brakes and blended braking/retarding

Integrated park with direction control
Wet disc brakes with integrated park



Toe kicks

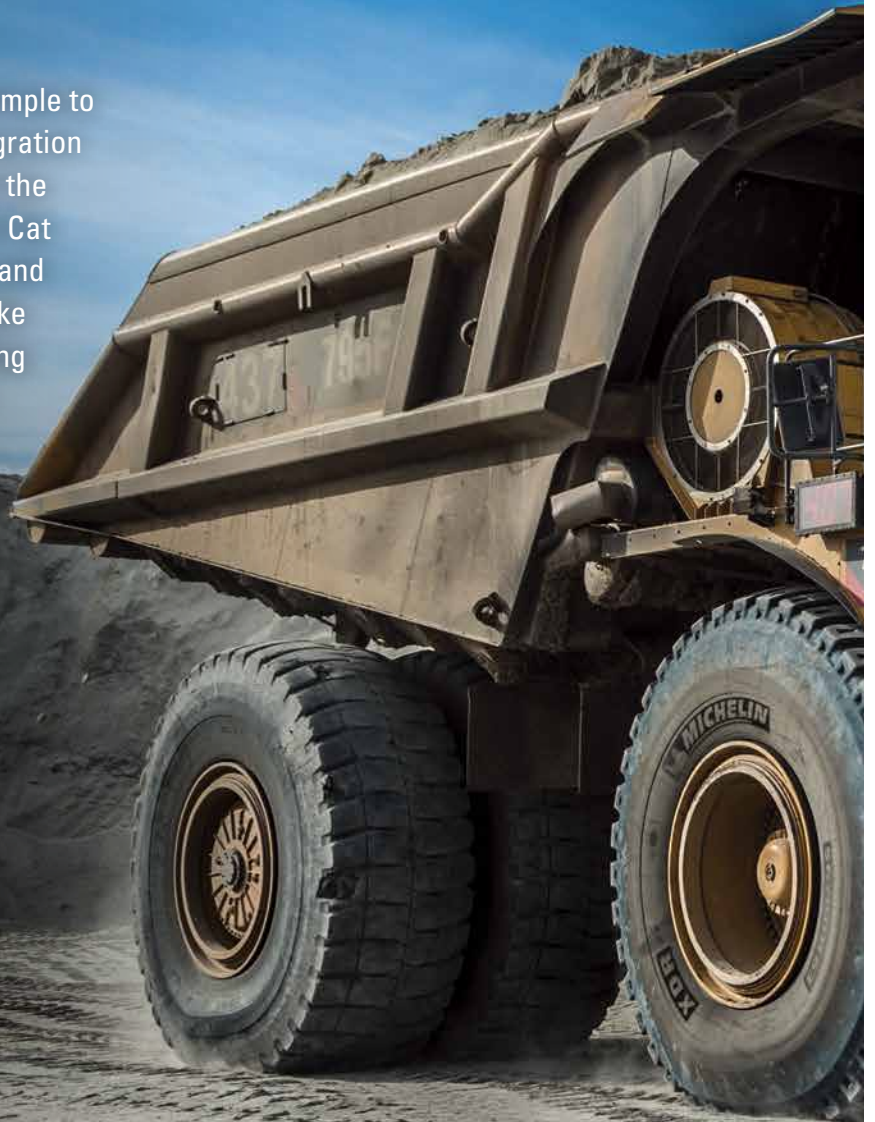
DESIGNED FOR COMFORT

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 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.

HAUL MORE — EVERY LOAD AND EVERY CYCLE

INTEGRATED POWER

The 795F AC is simple to learn and simple to operate thanks to a control and integration package that works seamlessly with the truck's powertrain components. The Cat engine, AC drive system, hydraulics and controls have been integrated to make the 795F AC easy to operate, providing excellent slow speed control within the service areas, and superior throttle response on acceleration out of loading or dumping areas. Integration of the engine and powertrain delivers low operating costs through electronically combined powertrain components.



A TRUCK YOU CAN DEPEND ON

The Cat 795F AC is long-lasting, easy to service and reliable. With the right plan, it has been proven to deliver 90% availability.

LONG-LIFE DRIVE TRAIN COMPONENTS

ENGINE

26,000+
HOURS

RETARDING GRID

32,000+
HOURS

FINAL DRIVES

32,000+
HOURS

TRACTION ALTERNATOR

33,000+
HOURS

INVERTER

45,000+
HOURS

WHEEL MOTORS

38,000+
HOURS

STRONG BACKBONE

The 795F AC frame uses a box-section design, incorporating forgings and castings in high stress areas with deep-penetration continuous wrap-around welds to resist fatigue from racking loads.

- + Mild steel used throughout the frame provides flexibility, durability and resistance to impact loads and allows for field repairs with common weld practices.
- + Castings have large radii to dissipate stress in areas of high stress concentration. Castings allow welds to be placed in lower stress areas for longer frame life.
- + The suspension system is designed to dissipate haul road and loading impacts for longer frame life.

BUILT TO BE REBUILT

Cat trucks are designed to last over 100,000 hours, and many are going well beyond that. The frame, power train, 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 like-new performance at a fraction-of-new price.

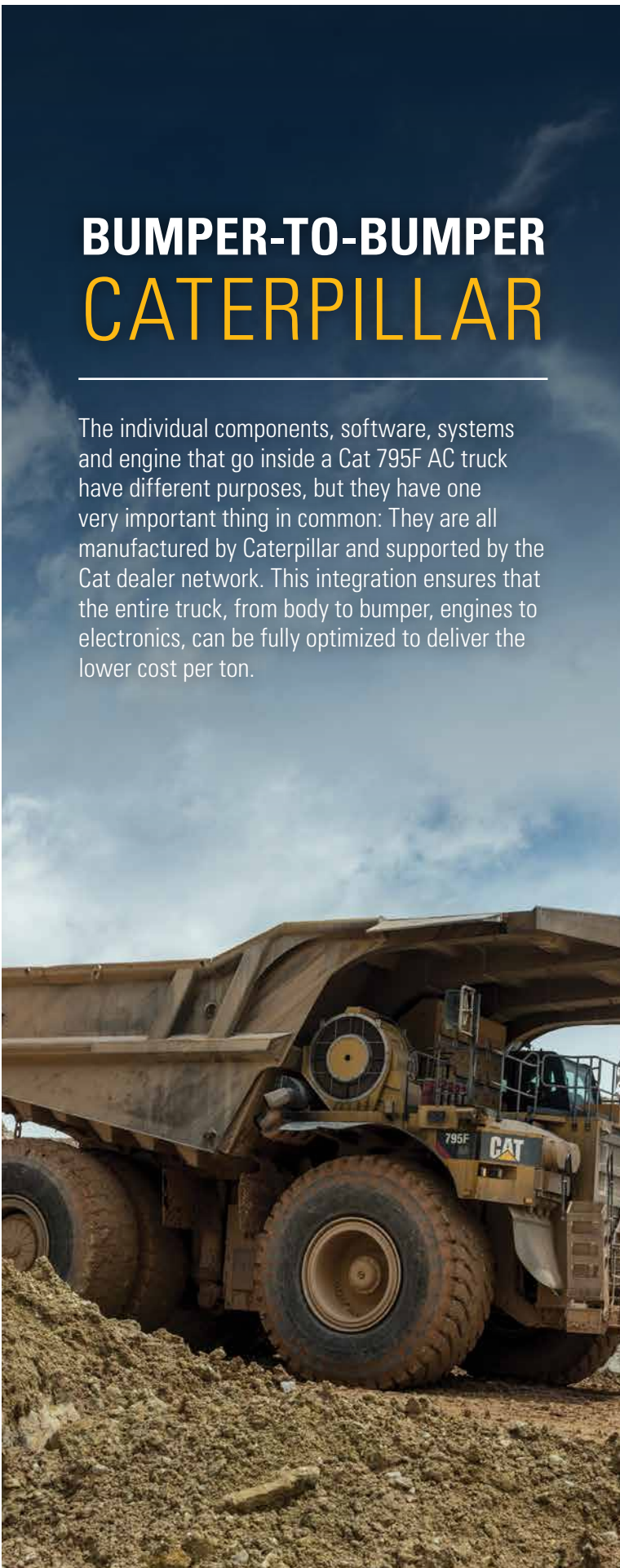
BUMPER-TO-BUMPER CATERPILLAR

The individual components, software, systems and engine that go inside a Cat 795F 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, engines to electronics, can be fully optimized to deliver the lower cost per ton.

PROVEN ELECTRIC DRIVE AND POWERTRAIN

The Cat AC electric drive power train is designed, integrated and supported by Caterpillar and works seamlessly with the C175 engine and machine hydraulics. The engine, drive system and chassis are jointly tuned and leverage Caterpillar leadership in electric power generation along with the proven components of EMD locomotives.

- + The C175 engine is available with two horsepower options. Robust design delivers long life and the option to rebuild.
- + The proprietary AC drive inverter offers lower weight and longer life. It's pressurized and filtered to reduce maintenance and uses an evaporative cooled modular IGBT proven in EMD locomotives.
- + The radial retarder grid was also proven in locomotive applications. It is quieter, lighter, and offers better visibility than box grids.
- + AC Drive dynamic retarding delivers continuous retarding power.
- + State-of-the-art high voltage IGBTs deliver maximum AC drive system efficiency.
- + The variable hydraulic blower fan provides optimized cooling even at idle for increased component performance and life. Depending on application and temperature, it can also provide additional speed on grade or fuel savings.
- + The dual bearing brushless alternator delivers longer life and less maintenance, with no shimming required.
- + Thermal sensors on the alternator and motor bearings / motor windings result in better prognostics for longer life and lower cost.



GET THE RIGHT BODY FOR THE JOB



Matching the truck body to the application is a critical part of achieving the best value from your 795F AC.

Caterpillar offers a variety of application-specific body options. The Caterpillar exclusive 10/10/20 payload guidelines help achieve a balance of excellent payload and safe operation.

Caterpillar designed and manufactured bodies are integrated with the chassis as a unit to optimize performance. We can ship one-piece bodies to meet specific needs.

BODY STYLE OFFERINGS

LIGHTWEIGHT: MINE SPECIFIC DESIGN

- + Standard MSD base body weight
21 188 kg (46,711 lb)
- + Standard MSD Volume (SAE 2:1) range
99-115 m³ (130-150 yds³)
- + Optional application-specific body liners
- + Built-in carryback reduction features such as front wall curved transition and corner pop-out plates

HEAVY DUTY: DUAL SLOPE

WITH 450 BHN BASE PLATE FOR
IMPROVED IMPACT AND WEAR

- + Standard Dual Slope base body weight
23 538 kg (51,892 lb)
- + Standard Dual Slope Volume (SAE 2:1)
78 m³ (102 yd³)

ADDITIONAL FEATURES

- + Application-specific side wall and tail extensions
- + 450 bhn base plates for improved impact and wear
- + MSD and DS bodies compatible to all previous generation trucks

MINING — FOR A — BETTER WORLD

Governments and regulatory agencies mandate that you establish and follow environmentally sound policies and practices as you meet the demand for mined materials. We're focused on doing our part to make sure our trucks help you meet those regulations.

We've designed the 795F AC to be more fuel efficient, which reduces engine emissions. The truck offers continuous rear axle filtration, extended life filters and extended maintenance intervals, which aid in decreasing the amount of waste contributed to the environment.

We also continue to research alternative energy sources such as biofuels and liquefied natural gas, and power options like electrification and trolley to find new ways to reduce emissions. In addition, we preserve raw materials, conserve energy and reduce emissions through the Cat Reman program, which returns end-of-life components to like-new condition.



CAT TROLLEY ASSIST ATTACHMENT

The 795F AC is the first Cat truck to be offered with a trolley assist attachment, which makes it possible for the truck to make use of external power during a certain section of the haul road. When connected to the trolley system, the truck's propulsion system is powered purely with electricity from the power grid—reducing diesel fuel burn by more than 90%. In addition to the operational benefits—such as reduced costs, longer engine life and faster speeds—trolley offers a number of environmental benefits. It makes it possible for mines to reduce NOx and Particulate Matter emissions, minimize carbon footprint, promote a more sustainable mining operation and support their social license to operate.





MORE TIME HAULING, LESS TIME SERVICING

The 795F AC was designed to reduce the time you spend on regular maintenance procedures.

The standard VIMS 3G 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. And enhanced serviceability and long service intervals help increase machine availability and productivity.

Features include:

- + Open engine access for service of engine, generator and inverter
- + Ground level filters and service
- + Component layout with minimized hydraulics
- + Separation of hydraulic and electric wiring
- + Separate traction motors, brakes and final drives for ease of service
- + Modular component design that allows for easy removal and installation
- + AC grid blower motor designed for longer life and less maintenance
- + Pressurized and filtered AC drive inverter that requires less maintenance
- + Sealed & pressurized cabinets, which require no cleaning
- + Sealed electrical connectors
- + Bumper service center

GAIN AN EDGE

WITH CAT® MINESTAR SOLUTIONS



FLEET



TERRAIN



DETECT



HEALTH



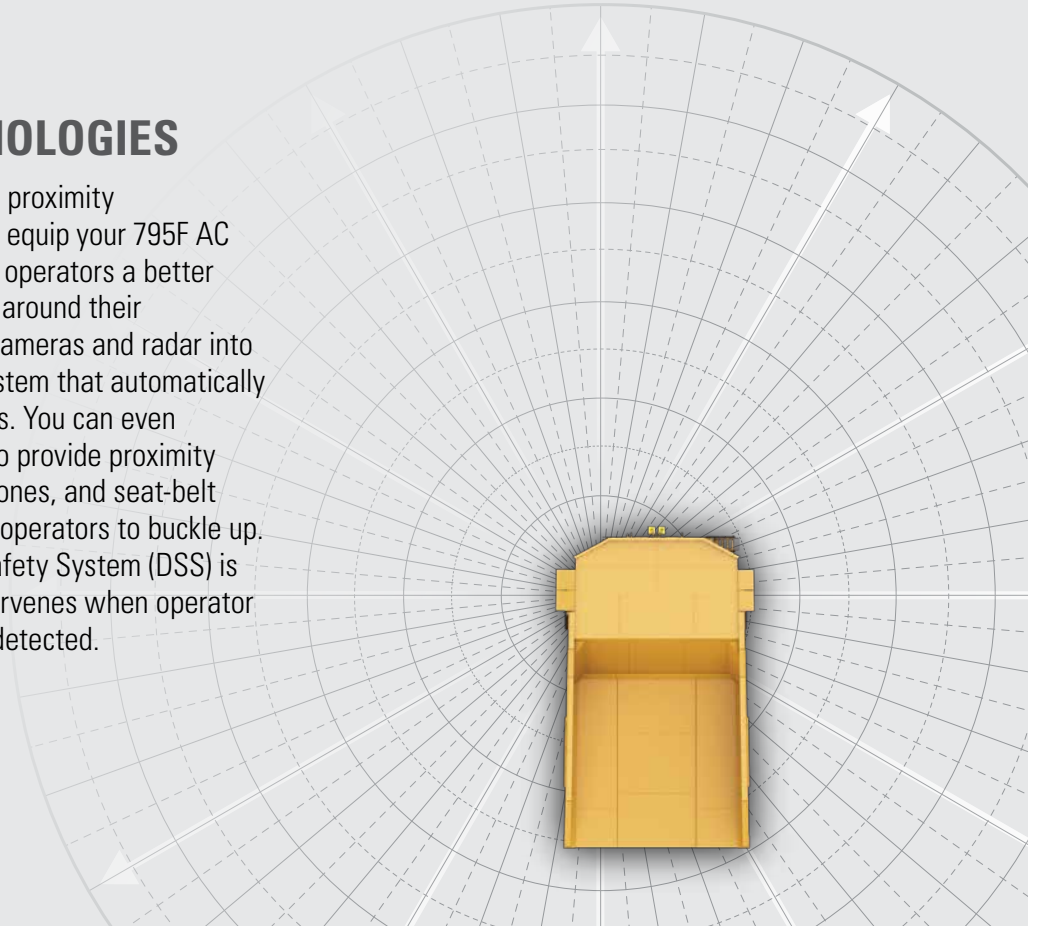
COMMAND

Whether you want to address a single challenge or make step changes in the overall safety, efficiency and productivity of your operation, Cat MineStar has a solution for you. Fleet management, guidance technologies and machine health applications allow significant improvements in your operations and maintenance organizations.

You also have the ability to further optimize your operation with Cat MineStar safety technologies and automation technologies, including fully autonomous hauling — a safety and productivity game-changer.

SAFETY TECHNOLOGIES

With the MineStar Detect proximity detection system, you can equip your 795F 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 to encourage 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.





PARTNERS

IN YOUR PERFORMANCE

Our commitment to your success doesn't end when your Cat 795F AC begins hauling 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.



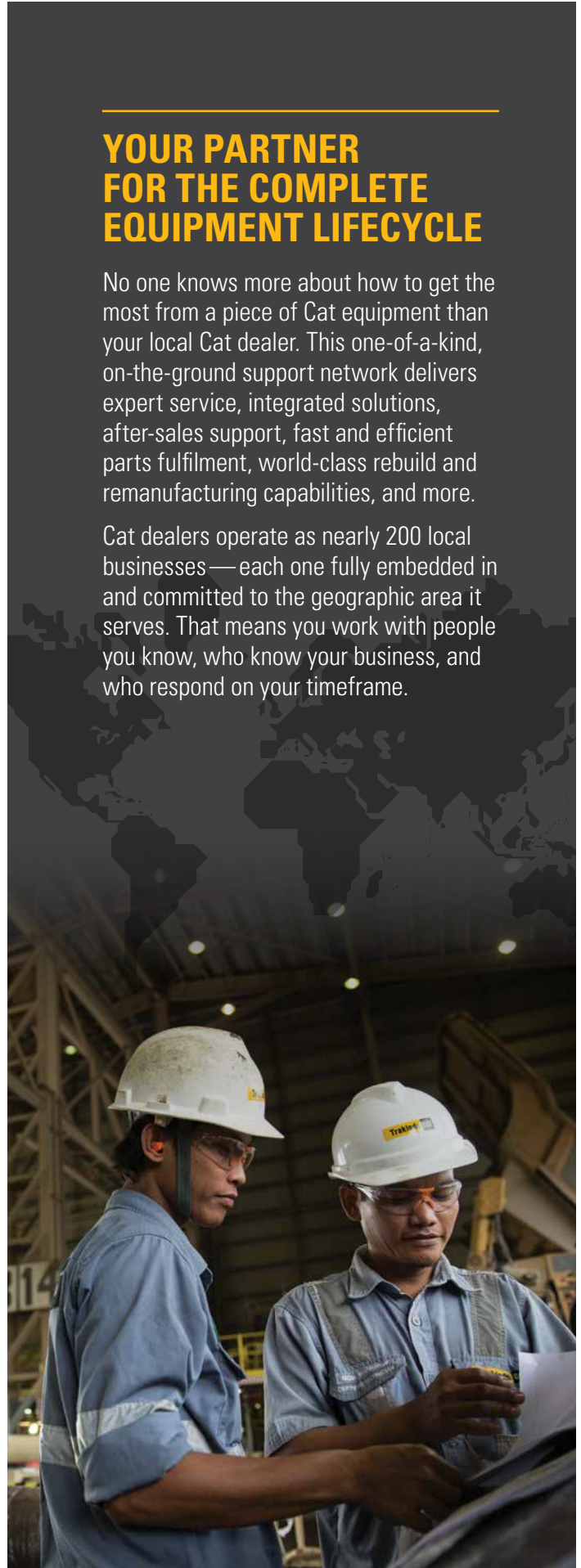
Caterpillar and Cat dealer personnel will partner with you on site to improve the performance not only of your trucks but of your overall loading and hauling operation. You'll have access to parts and service, and technicians who are focused on helping you optimize repairs to keep machines in the field 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.

YOUR PARTNER FOR THE COMPLETE EQUIPMENT LIFECYCLE

No one knows more about how to get the most from a piece of Cat equipment than your local Cat dealer. This one-of-a-kind, on-the-ground support network delivers expert service, integrated solutions, after-sales support, fast and efficient parts fulfilment, world-class rebuild and remanufacturing capabilities, and more.

Cat dealers operate as nearly 200 local businesses—each one fully embedded in and committed to the geographic area it serves. That means you work with people you know, who know your business, and who respond on your timeframe.



BETTER
LOADING
BETTER
HAULING
**BETTER
BOTTOM
LINE**

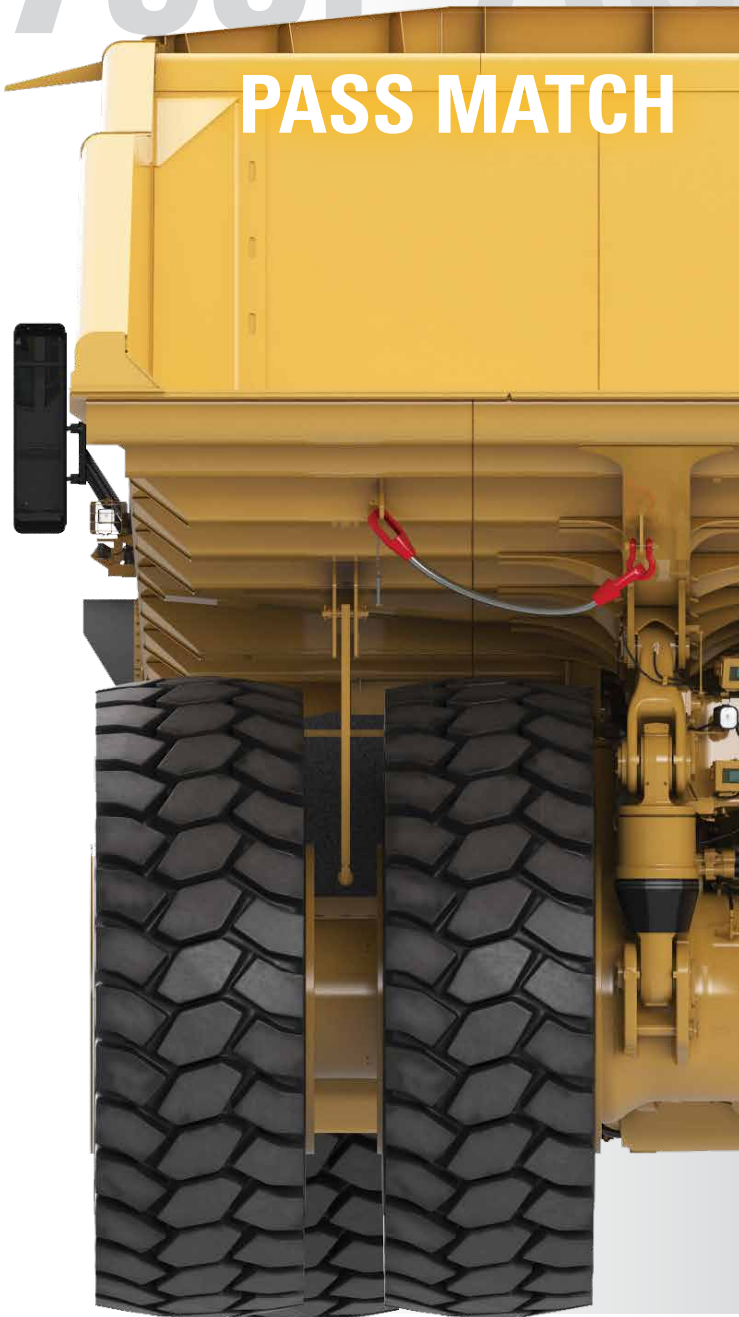
With a truck for every site or application — no matter the size class or drive system — and a broad lineup of loading tools, Caterpillar delivers a complete loading and hauling solution that delivers the lowest cost per ton.

Trucks and loaders are ideally matched to optimize the loading and hauling cycle. Whether you choose a Cat electric rope shovel, hydraulic mining 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.



795F AC

PASS MATCH



HMS 6050



6-7

6060



5-6

6090 FS



3-4

ERS 7495 HD



4

7495 HF



3

TECHNICAL SPECIFICATIONS

See cat.com for complete specifications.

ENGINE		
Engine Model	Cat C175-16	
Gross Power – SAE J1995		
Standard	2535 kW	3,400 hp
Optional	2312 kW	3,100 hp
Rated Speed	1,800 rpm	
Net Power – SAE J1349	2460 kW	3,299 hp
Emissions Rating	Fuel Optimized/ Optional U.S. Environmental Protection Agency Tier 2 Standard Equivalent	
Bore	175 mm	6.9 in
Stroke	220 mm	8.7 in
Displacement	85 L	5,187 in ³
+ Contact factory for trolley configuration.		

WEIGHTS – APPROXIMATE		
Gross Machine Operating Weight (GMW)	576 072 kg	1,270,000 lb
Chassis Weight	200 159 kg	441,275 lb
Body Weight Range	37 763- 54 500 kg	83,253- 120,000 lb
+ GMW based on 59/80 R63 tires.		
+ GMW depends on tire selection. Consult your tire manufacturer for maximum loaded top speed.		
+ Chassis weight with 100% fuel, hoist, body mounting group, rims and tires.		
+ Body weight varies depending on how body is equipped.		

OPERATING SPECIFICATIONS		
Nominal Rated Payload	338 tonnes	372 tons
Nominal Rated Payload Range	318- 350 tonnes	350- 385 tons
Top Speed – Loaded	64 km/h	40 mph
Steer Angle	34 degrees	
Turning Diameter – Front	34 m	112 ft
Turning Circle Clearance Diameter	38.7 m	127 ft
+ For 59/80 R63 tires.		
+ Refer to the Cat Mining Truck 10/10/20 Overload Policy (AEXQ0250) for maximum gross machine weight limitations.		
+ Nominal Rated Payload assumes no debris and varies with machine configuration.		
+ An average payload target of 105% of Nominal Rated Payload can be approved based on review of the specific application and machine configuration. Contact your local Cat dealer for details.		

FINAL DRIVES	
Total Reduction Ratio	35:1

AC DRIVE SYSTEM	
Generator/Alternator	Brushless, remote mounted, dual bearing
Controls	IGBT Inverter Technology, air cooled, pressurized cabinet with filtration
Wheel Motor	Rear axle mounted Cat AC induction
Cooling System	Variable speed, hydraulic cooling system

SUSPENSION		
Effective Cylinder Stroke – Front	293 mm	11.5 in
Effective Cylinder Stroke – Rear	141 mm	5.6 in
Rear Axle Oscillation	±4.8°	

BODY HOISTS		
Pump Flow – High Idle	935 L/min	247 gal/min
Relief Valve Setting – Raise	24 500 kPa	3,553 psi
Body Raise Time – High Idle	19 Seconds	
Body Lower Time – Float	20 Seconds	
Body Power Down – High Idle	17.5 Seconds	
+ Twin, two-stage hydraulic cylinders mounted inside main frame; double-acting cylinders in second stage.		
+ Power raise in both stages; power down in second stage.		
+ Automatic body-lower modulation reduces impact on frame.		

BRAKING SYSTEM		
Oil Cooled Brakes – Retarding Capable at All Speeds		
Outside Diameter	1067 mm	42 in
Brake Surface – Front	132 258.4 cm ²	20,500.09 in ²
Brake Surface – Rear	198 388 cm ²	30,750.2 in ²
Standards	ISO 3450:1996	
Electric Retarding	Radial Grid Design with Brushless AC Fan Motor	
	4750 kW (6,370 hp)	rated power
Dynamic Retarding Power	4750 kW	6,370 hp
Blended Four Corner Retarding	Standard	

WEIGHT DISTRIBUTIONS – APPROXIMATE

Front Axle – Empty	48%
Rear Axle – Empty	52%
Front Axle – Loaded	33%
Rear Axle – Loaded	67%

CAPACITY – MSD II – 100% FILL FACTOR

Struck	121.5-211 m ³	159-276 yd ³
Heaped (SAE 2:1)	181-252 m ³	237-330 yd ³

+ Contact your local Cat dealer for body recommendations.

SERVICE REFILL CAPACITIES

Fuel Tank	3596 L	950 gal
Fuel Tank (optional)	7192 L	1,900 gal
Cooling System	1100 L	291 gal
Crankcase	310 L	82 gal
Final Drives, Each	341 L	90 gal
Steering Tank	210 L	55.5 gal
Steering System (Includes Tank)	300 L	79 gal
Brake/Hoist Hydraulic Tank	508 L	134.2 gal
Brake/Hoist System (Includes Tank)	1500 L	396.3 gal

TIRES

- + 59/80 R63 (Standard)
- + 56/80 R63 (Optional)
- + Productive capabilities of the 795F AC truck are such that, under certain job conditions, TKPH (TMPH) capabilities could be exceeded and, therefore, limit production.
- + Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

ROPS

ROPS Standards

- + ROPS (Rollover Protective Structure) for cab offered by Caterpillar meets ISO 3471:2008 ROPS criteria.
- + FOPS (Falling Objects Protective Structure) meets ISO 3449:2005 Level II FOPS criteria.

SOUND

Sound Standards

- + The operator sound pressure level measured according to work cycle procedures specified in ISO 6394:2008 and 6396:2008 is 76 dB(A) for cab offered by Caterpillar when properly installed and maintained and tested with doors and windows closed.
- + Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in a noisy environment.

STEERING

Steering Standards ISO 5010:2007

- + Gross Machine Operating Weight is 576 072 kg (1,270,000 lb).



795F AC LARGE MINING TRUCK

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

PEDJ0471

©2019 Caterpillar. All Rights Reserved.

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

© 2019 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar 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.

