793F

LARGE MINING TRUCK

Engine:	C175-16 (Tier 4 optional)
Gross Power:	1976 kW / 2,650 HP
Gross Weight:	390 089 kg / 860,000 lb or 386 007 kg / 851,000 lb
Nominal Rated Payload:	231 tonnes / 255 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.

CAT® 793F

MAXIMUM PERFORMANCE.
OPTIMIZED PAYLOAD.
LONG LIFE.

WHAT WILL IT TAKE TO BOOST YOUR BOTTOM LINE?

An engine that delivers more power and performance for an increase in productivity? A class-leading empty weight that leads to optimized payload? A longer life for high operating hours, reduced costs and the opportunity to rebuild for a second life?

With the Cat® 793F, you get all of this — and more. This popular industry workhorse is the ideal choice for a wide variety of applications. 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.

THE GOLD STANDARD IN COST PER TON

OVER 5% WEIGHT ADVANTAGE

+ Highest payload for rated gross machine weight (240-255 tons / 218-231 tonnes)
+ HP Body option reduces weight more than 3 tonnes (3.3 tons)

GREATER THAN 90% AVAILABILITY

The latest improvements result in new and updated machines in the field delivering industry-leading availability. Tier 4 Final 793s have achieved 8,100 hours in the first year of operation.

OVER 6% FASTER THAN COMPETITIVE TRUCKS

+ Travels at a class-leading speed of 12.9 kph / 8 mph on 10% grade
+ Achieves top speed of 60 kph / 37 mph
+ Capable of traveling at a maximum 28% grade loaded

OVER 20% PRODUCTIVITY BOOST WITH ADDITION OF AUTONOMY

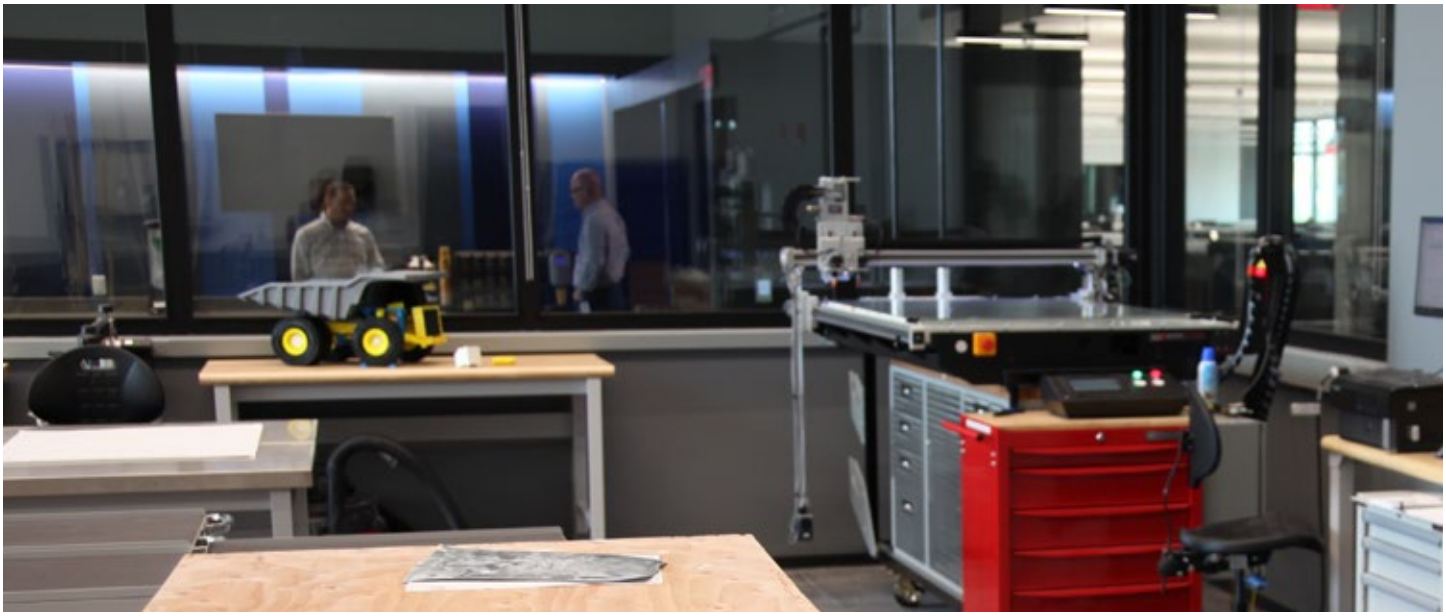
+ Fully integrated AHS factory offering
+ 240+ autonomous trucks in service
+ Over 1.6 billion tonnes hauled
+ Near continuous utilization

IMPROVED FUEL USAGE

+ Multiple power settings: full power and economy mode
+ Zero fuel burn during retarding

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

HAUL MORE —
EVERY LOAD AND EVERY CYCLE

OPTIMIZED PAYLOAD

An empty weight advantage of at least 9 tonnes (10 tons) over competitive electric-drive trucks in its size class ensures you're getting the full payload you expect. And when you choose the HP Body option, you'll reduce weight an additional 2.0-5.0 tonnes (2.2-5.5 tons).

FASTER SPEEDS

The 793F is 6% faster than competitive trucks and delivers optimal speed on steep grades, poor underfoot conditions and haul roads with high rolling resistance. Its C175-16 diesel engine's 16-cylinder, four-stroke design uses long, effective power strokes for optimum efficiency. The 20% net torque rise provides unequaled lugging force during acceleration. Torque rise effectively matches transmission shift points for maximum efficiency and fast cycle times.

OPTIMUM POWER

The Cat six-speed transmission, with the latest APECS controls, is paired with the C175-16 engine to deliver optimum power over a wide range of operating speeds. The lock-up torque converter engages at approximately 8 km/h (5 mph), delivering unsurpassed stall torque for its size class. Cat final drives work as a system with the upper powertrain to deliver maximum power to the ground.

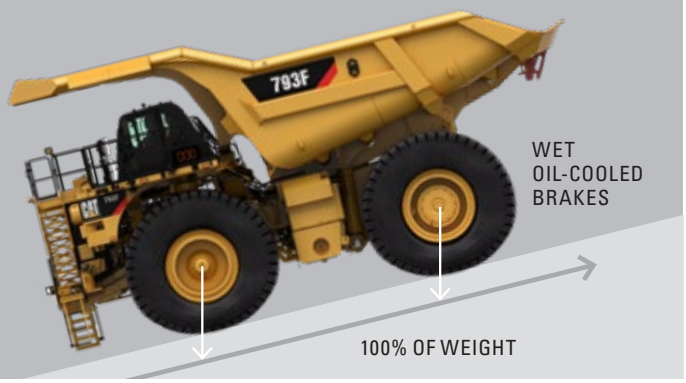
WHAT IF YOU COULD TRAVEL FASTER— EVEN IN TOUGH CONDITIONS?

CONFIDENT OPERATORS ARE **PRODUCTIVE OPERATORS**

DESIGNED FOR CONTROL

Proven Cat braking systems deliver superior control so your operators can focus on productivity. Like all Cat mechanical-drive trucks, the 793F features four-corner oil-cooled brakes and Automatic Retarding Control to improve handling and machine control so operators can work quickly and confidently.

The brakes are continuously cooled by water-to-oil heat exchangers for exceptional, non-fading braking and retarding performance. With retarding power applied to all four corners, the full weight of the truck can be applied for traction, resulting in better control, more operator confidence and typically higher speeds in poor underfoot conditions.



DESIGNED FOR COMFORT

With multiple cab options, you can equip your 793F with the features you desire. All options offer 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 automatic climate control, sound suppression, and a next generation seat that includes a height adjuster; adjustable shoulder stock to keep seatbelt from rubbing on the operator's neck; and seat back, side and lumbar bolsters to increase stability.

SAFETY-INFUSED

From slip-resistant surfaces and guard rails to state-of-the-art collision avoidance technologies, the Cat 793F is infused with features to help operators feel safe and confident on the job.

Diagonal stairway and optional powered access stairway

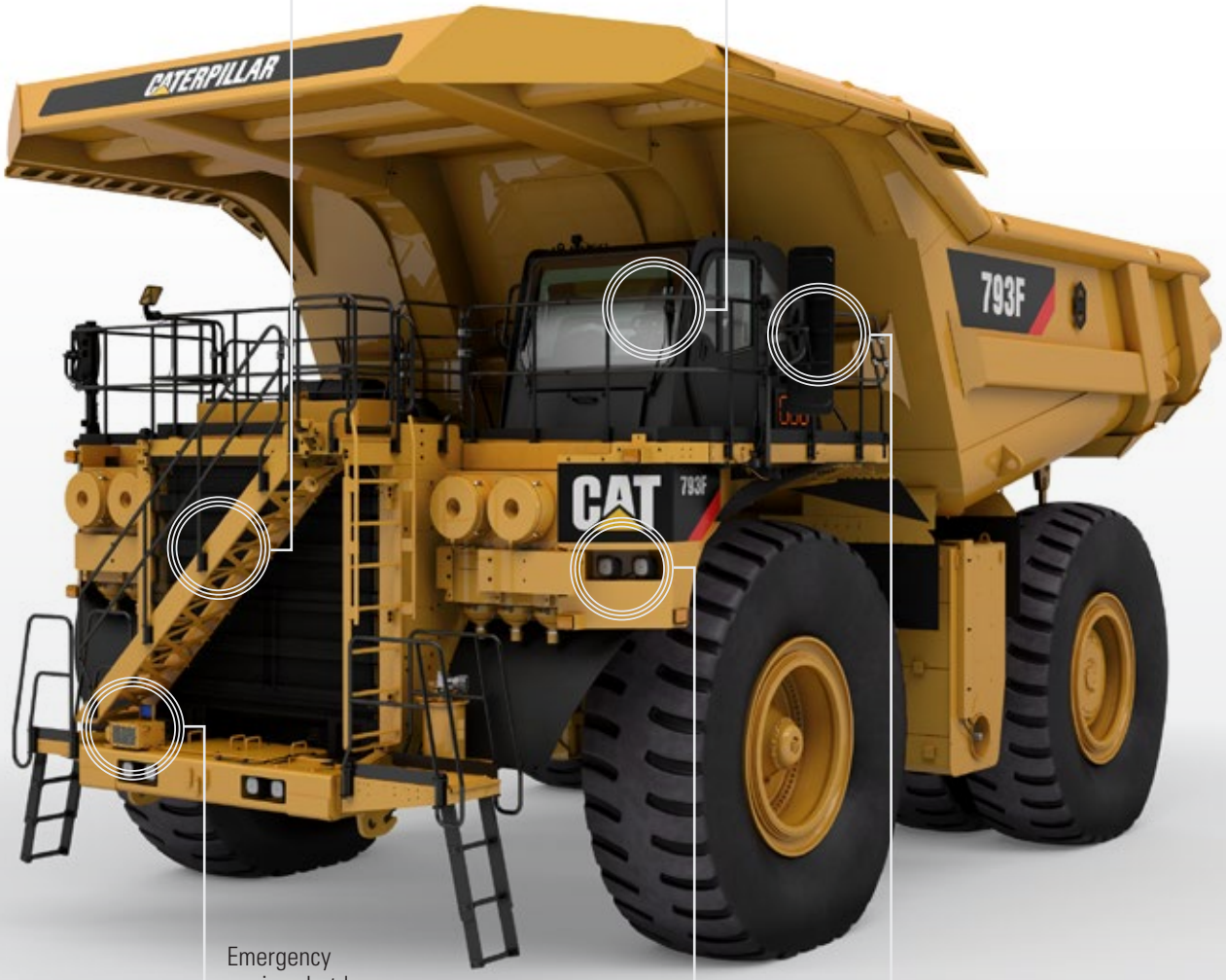
High visibility nosing on all stairs

Integral ROPS cab

Three-point operator restraint

Body raised indicator

Factory-installed Cat® MineStar™ Detect system



Emergency engine shutdown

Lockouts for battery, starter and transmission

Standard LED lights and additional lighting options

Improved visibility mirrors

A TRUCK YOU CAN DEPEND ON

The Cat 793F has been a reliable performer on mine sites for decades, and today's 793s are achieving more than ever.

The 793F has been improved with longer-life components, extended service intervals and easier maintenance to deliver mechanical availability that is consistently greater than 90%. And today's 793F is built on our most durable 231-tonne (255-ton) frame ever built, backed by unprecedented levels of virtual and in-iron validation as well as over 6,000,000 hours in operation.

STRONG BACKBONE

The 793's mild steel frame provides flexibility, durability and resistance to impact loads. Castings are used in high-stress areas and the integral 4-post ROPS cab provides increased strength for operator protection.

BUILT TO BE REBUILT

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

DESIGNED TO LAST
—OVER—
100,000
HOURS

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 793F to use less fuel, which reduces engine emissions and carbon footprint, and there is zero fuel burn during retarding. The optional Tier 4 Final engine reduces NOx and particulate matter. Rear axle filtration, extended life filters and extended maintenance intervals decrease 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.

THE INDUSTRY'S BEST EMISSIONS SYSTEM

The Cat 793F is available in a fuel-efficient configuration that meets U.S. EPA Tier 4 final emissions standards. Through over 150,000 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.

MORE POWER, LOWER COSTS

The 793F is powered by the proven C175-16 engine. This proven engine has more than 21 million hours of operation and in the 793F is capable of burning over 1 million gallons (3.8 million liters) of fuel before overhaul. The new C175 reduces fuel consumption while increasing horsepower. Engine power is adjustable to adapt to changes in production targets and to work smoothly in mixed fleets.

The engine contributes to overall lower operating and maintenance costs thanks to:

+ High displacement, low rpm rating and conservative horsepower ratings, which mean more time on the haul roads and less time in the shop.
+ The Cat Common Rail Fuel System provides optimal fuel delivery, which reduces both fuel consumption and emissions output.
+ The new Cat Enhanced Engine Oil Filtration System increases engine life, eliminates cartridge filter changes and makes it possible to extend oil change intervals.

BUMPER-TO-BUMPER CATERPILLAR

The individual components, software, systems and engine that go inside a Cat 793F 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 tires to transmissions, engines to electronics, can be fully optimized to deliver the lowest cost per ton.

MORE TIME HAULING, LESS TIME SERVICING

The 793F was designed to reduce the time you spend on regular maintenance procedures. Enhanced serviceability and long service intervals help increase machine availability and productivity.

Features include:

+ Improved service center
+ Grouped ground level maintenance and checkpoints
+ 1,000-hour hydraulic filters
+ Oil level sight gauges and front wheel sight glass
+ Service platforms on the engine and transmission
+ Easy access to major components for easy servicing and removal
+ Optional electric start removes air system
+ Optional fast fill service center with Live S-O-S Service Center and brake wear indicators
+ AutoLube system that automatically lubricates necessary components on a regular basis
+ Sealed electrical connectors

BOOST YOUR BOTTOM LINE
WITH CAT BODIES

HIGH PERFORMANCE BODY

When you equip your 793F with a Cat High Performance (HP) body, you'll experience the benefits of a higher payload thanks to a weight reduction of 2.0-5.0 tonnes (2.2-5.5 tons) or more. The HP body features a lightweight, simplified and durable design that provides complete front machine coverage and extended overhead protection.

The HP body features robust top rail geometry with internal stiffeners and a high-visibility load placement indicator. Patented floating bolsters and spring plates improve overall durability by avoiding welds in high stress areas. In addition, the body requires only minimal liner coverage due to thicker and harder base plates. Curved front/side transitions minimize carryback.

THE BENEFITS

- INCREASED PAYLOAD FROM 2.0-5.0 TONNES (2.2 -5.5 TONS)
- EXTENDED TIRE LIFE AND FRONT WHEEL LIFE
- REDUCED FUEL CONSUMPTION
- LESS SPILLAGE
- OPTIMIZED PAYLOAD SPLITS
- MINIMIZED CARRYBACK

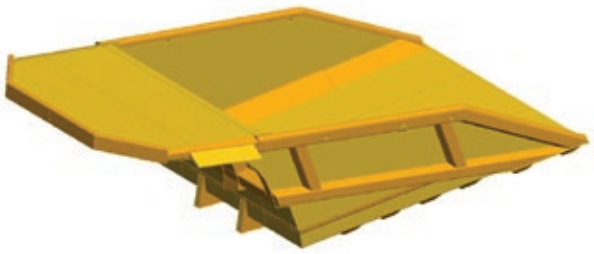
GET THE RIGHT BODY FOR THE JOB

Matching the truck body to the application is a critical part of achieving the best value from your 793F. Caterpillar offers lightweight and specialty bodies specifically tailored to a wide range of applications. The Caterpillar exclusive 10/10/20 payload guidelines help achieve a balance of excellent payload with safe operation.

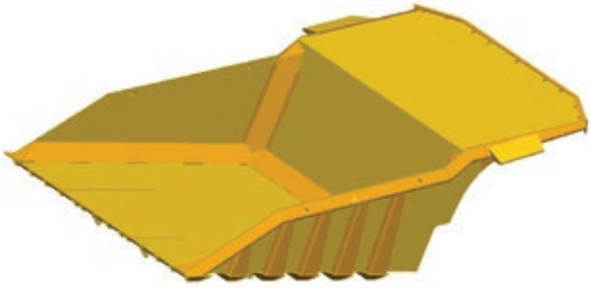
BODY OPTIONS

In addition to the new High Performance body, the 793F can be configured with our traditional body options, which are also specifically designed to work with the Cat frame for superior structural performance. Bodies can also be customized with options like tail extensions, sideboards and application-specific liners, which help to maintain rated payload, reduce spillage and improve hauling efficiencies.

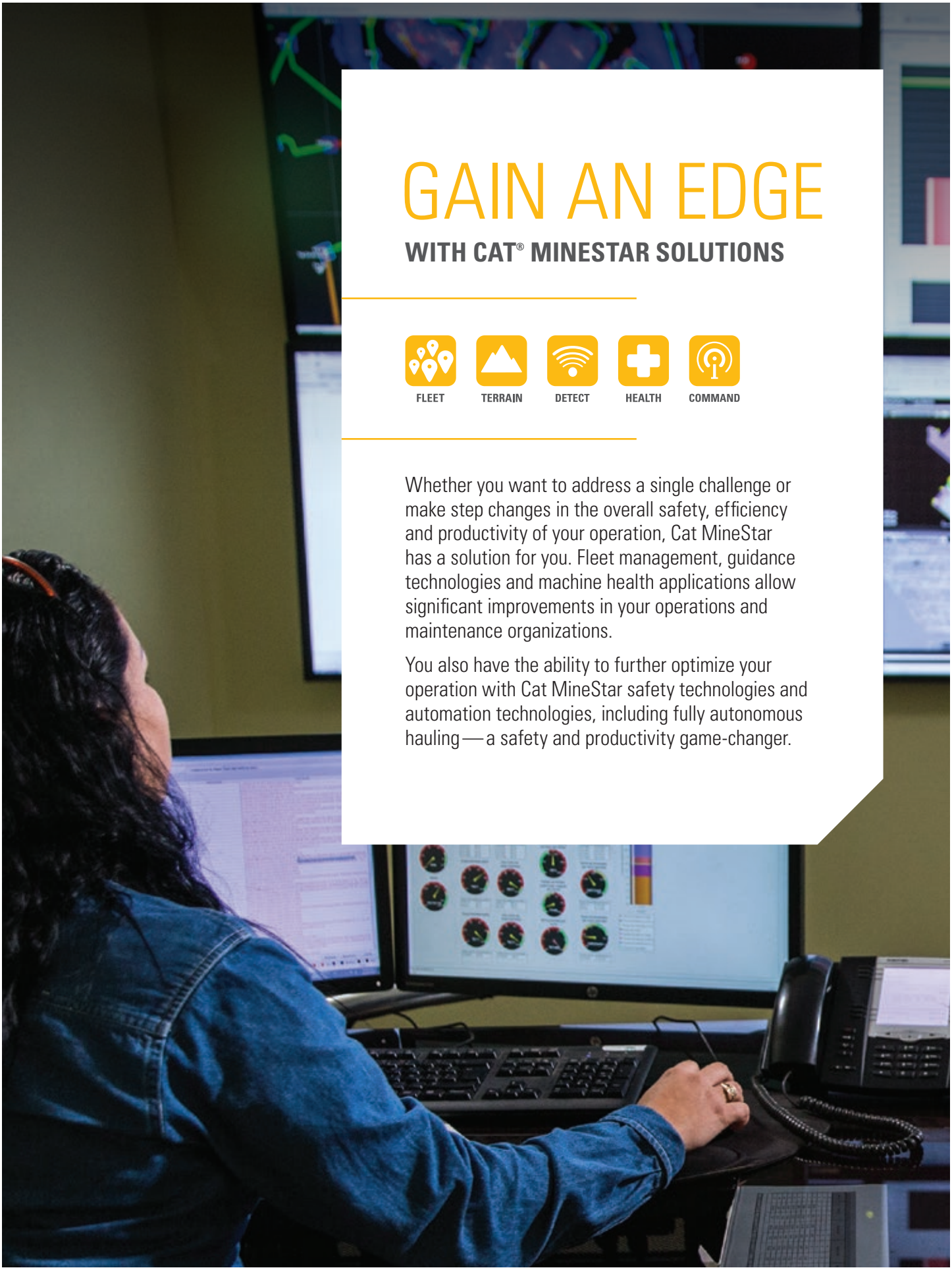
MSD II



X BODY



GATELESS COAL BODY



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.

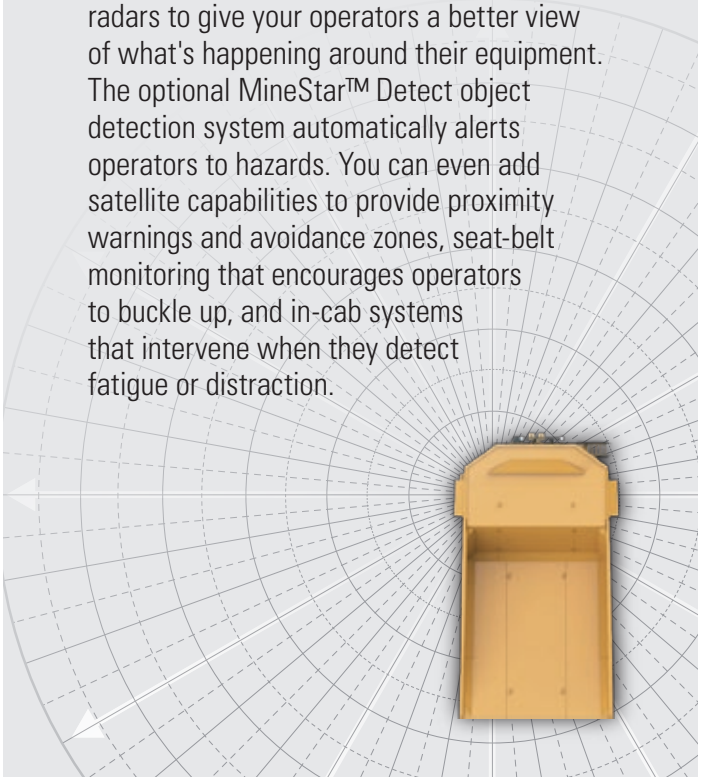
You also have the ability to further optimize your operation with Cat MineStar safety technologies and automation technologies, including fully autonomous hauling—a safety and productivity game-changer.

OPTIMIZE YOUR ENTIRE OPERATION

+ Terrain for Loading
+ Object Detection
+ Driver Safety System
+ Proximity Awareness
+ Equipment Care Advisor
+ Equipment Insights
+ Health Office
+ Product Link Elite
+ Command for Hauling, Drilling and Dozing
+ Truck Spotting
+ Load Positioning

SAFETY TECHNOLOGIES

The 793F is equipped with cameras and radars to give your operators a better view of what's happening around their equipment. The optional MineStar™ Detect object detection system automatically alerts operators to hazards. You can even add satellite capabilities to provide proximity warnings and avoidance zones, seat-belt monitoring that encourages operators to buckle up, and in-cab systems that intervene when they detect fatigue or distraction.



AUTONOMOUS HAULAGE

MineStar Command for hauling, an autonomous hauling solution, is a fully integrated factory offering on the 793F. Hundreds of autonomous Cat trucks, including 793s, 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.

INCREASE PRODUCTIVITY
by more than **30%**

PARTNERS
IN YOUR PERFORMANCE

Our commitment to your success doesn't end when your Cat 793F 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.

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.

793F PASS MATCH

LWL	994 Extended Highlift 	6
HMS	6040 	6
	6050 	5
	6060 	4
	6090 FS 	3
ERS	7295 	4
	7395 HR 	4
	7495 HD 	3

TECHNICAL SPECIFICATIONS

See cat.com for complete specifications.

ENGINE		
Engine Model	Cat C175-16	
Gross Power – SAE J1995	1976 kW	2,650 hp
Net Power – SAE J1349	1848 kW	2,478 hp
Torque Rise	20%	
Bore	175 mm	6.9 in
Stroke	220 mm	8.7 in
Displacement	85 L	5,187 in^3

+ Power ratings apply at 1,750 rpm when tested under the specified condition for the specifi ed standard.
+ Ratings based on SAE J1995 standard air conditions of 25° C (77° F) and 99 kPa (29.61 Hg) dry barometer. Power based on fuel having API gravity of 35 at 16° C (60° F) and an LHV of 42.780 kJ/kg (18,390 Btu/lb) when engine used at 30° C (86° F).
+ No engine derating required up to 3353 m (11,000 ft) altitude.
+ EPA Compliant. Where applicable, the Cat C175-16 engine is compliant with U.S. Environmental Protection Agency emission requirements.

WEIGHTS – APPROXIMATE		
Chassis Weight	122 300 kg	270,000 lb
Body Weight Range	26 862-47 627 kg	59,220-105,000 lb

+ Chassis weight with 100 percent fuel, hoist, body mounting group, rims and 40.00R57 tires.
+ Body weight varies depending on how body is equipped.

OPERATING SPECIFICATIONS		
Nominal Rated Payload	231 tonnes	255 tons
Top Speed – Loaded	60 km/h	37.3 mph
Steer Angle	36 Degrees	
Turning Diameter – Front	28 m	93 ft
Turning Circle Clearance Diameter	33 m	107 ft
Gross Machine Operating Weight	386 007 or 390 089 kg	851,000 or 860,000 lb

+ Refer to the Cat Mining Truck 10/10/20 Overload Policy for maximum gross machine weight limitations.

FINAL DRIVES	
Differential Ratio	1.8:1
Planetary Ratio	16:1
Total Reduction Ratio	28.8:1

TRANSMISSION		
Forward 1	12.9 km/h	8 mph
Forward 2	17.4 km/h	10.8 mph
Forward 3	23.8 km/h	14.8 mph
Forward 4	32.1 km/h	19.9 mph
Forward 5	43.6 km/h	27.1 mph
Forward 6	60 km/h	37.3 mph
Reverse	11.8 km/h	7.3 mph

SUSPENSION		
Effective Cylinder Stroke – Front	130.5 mm	5.1 in
Effective Cylinder Stroke – Rear	105.5 mm	4.2 in
Rear Axle Oscillation	±4.9 degrees	

BODY HOISTS		
Pump Flow – High Idle	846 L/min	224 gal/min
Relief Valve Setting – Raise	20 370 kPa	2,955 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 outside 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.

BRAKES		
Outside Diameter	874.5 mm	34.5 in
Brake Surface – Front	89 817 cm^2	13,921 in^2
Brake Surface – Rear	34 500 cm^2	20,847 in^2
Standards	J-ISO 3450 JAN88, ISO 3450:1996	

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	112-142 m^3	146-186 yd^3
Heaped (SAE 2:1)	159-190 m^3	209-250 yd^3

+ Contact your local Cat dealer for body recommendation.

SERVICE REFILL CAPACITIES		
Fuel Tank	2839 L	750 gal
Fuel Tank (optional)	4922 L	1,300 gal
Cooling System	1074 L	284 gal
Crankcase	312 L	82 gal
Rear Axle Housing	984 L	260 gal
Steering System (Includes Tank)	290 L	77 gal
Brake/Hoist System (Includes Tank)	1315 L	347 gal
Torque Converter/Transmission Sump	102 L	27 gal
Torque Converter/Transmission System (Includes Sump)	209 L	55 gal

ROPS

ROPS Standards

+ ROPS (Rollover Protective Structure) for cab offered by Caterpillar meets ISO 3471:1994 ROPS criteria.
+ FOPS (Falling Objects Protective Structure) meets ISO 3449:1992 Level II FOPS criteria.

SOUND

Sound Standards

+ The operator sound pressure level measured according to work cycle procedures specified in ISO 6394 and 6396 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	SAE J15111 OCT90, ISO 5010:1992

WEIGHT/PAYLOAD CALCULATION (EXAMPLE)

	793F, SLWS, 29", 40R57*		793F, XLWS, 29", 40R57		793F, XLWS, 32", 50/80R57**	
Truck Body MSD II (209 yd^3/160 m^3)	MSD Body		MSD Body		MSD Body	
Gross Machine Operating Weight	386 008 kg	851,000 lb	386 008 kg	851,000 lb	390 090 kg	860,000 lb
Basic Machine Weight[1]	42 638 kg	94,001 lb	42 638 kg	94,001 lb	42 638 kg	94,001 lb
Attachments	78 956 kg	174,068 lb	81 463 kg	179,595 lb	85 145 kg	187,712 lb
Body Weight – Fully Lined MSD II (230 yd^3/160 m^3)	33 102 kg	72,977 lb	33 102 kg	72,977 lb	33 102 kg	72,977 lb
Operating Machine Weight	154 766 kg	341,200 lb	157 273 kg	346,727 lb	165 783 kg	365,489 lb
3% Debris Allowance[2]	4643 kg	10,238 lb	4718 kg	10,404 lb	4829 kg	10,647 lb
Empty Operating Machine Weight (EOMW)[1]	159 409 kg	351,436 lb	161 991 kg	357,129 lb	165 783 kg	365,489 lb
Potential Target Payload[3]	**227 tonnes**	**250 tons**	**224 tonnes**	**247 tons**	**225 tonnes**	**247 tons**

* 793F Standard includes: common arrangement, 100% fuel (2,840 L/750 gal), hoist, body mounting group, mandatory attachments, standard wheel station, 29" rims and 40.00R57 Tires.

** 793F XLWS includes: common arrangement, 100% fuel (2,840 L/750 gal), hoist, body mounting group, mandatory attachments, extended life wheel station, 32" quick change rims and 50/80R57 Tires.

[1] Weights will vary dependent on configuration and may include ± 2% variation due to standard material tolerances.

[2] Calculations include (3% OMW) debris allowance. However, actual debris allowance should be considered based upon known site conditions.

[3] It is recommended to work with your Global Mining representative to calculate target payload per specific site.

Caterpillar recommends the customer evaluate all job conditions and consult the Cat dealer and tire manufacturer for proper tire selection.

Reference tire limitations with your local tire distributor concerning details of the tires being considered.

Productive capabilities of the 793F are such that, under certain job conditions, TKPH (TMPH) capabilities of standard or optional tires could be exceeded and, therefore, limit production.

793F LARGE MINING TRUCK

PEDJ0470-01