

7495

ELECTRIC ROPE SHOVEL



Dipper Payload: 109 mt (120 t)
Dipper Capacity: 30.6-62.7 m³ (40-82 yd³)
**Working Weight with
Dipper & Standard Links:** 1 386 178 kg (3,056,000 lb)







CAT® ELECTRIC ROPE SHOVELS

RELIABILITY AT WORK

Cat® Electric Rope Shovels can load more material—more efficiently and more cost-effectively—than any other loading tool in the industry. They combine immense payload capability with low maintenance requirements and high reliability to deliver a lower cost-per-ton loading solution for long-life mines. With an operating life of 120,000 hours, they are a viable option for mines with estimated lives that meet or exceed a timeframe of 20 years.



CAT — 7495

ELECTRIC ROPE SHOVEL

THE ULTIMATE IN EFFICIENCY AND RELIABILITY

Combining immense payload capability with low maintenance requirements, the highly reliable 7495 delivers a lower cost-per-ton loading solution for long-life mines. It's an entirely electric machine, which makes it cleaner and more efficient than a diesel-powered loader, and its regenerative braking technology actually returns electrical energy to the grid during operation.

The 7495's proven Alternating Current (AC) Insulated-Gate Bipolar Transistor (IGBT) electronics increase uptime, lower operating costs and speed up cycle times, and the state-of-the-art cab keeps operators comfortable and productive all shift long. It's also supported by a broad offering of standard and optional technologies that assist the operator, protect the machine, enable proactive maintenance and deliver real-time information on machine position and performance.

RELIABILITY AND UPTIME

- + Proven AC IGBT Electric Drive System
 - » Streamlined
 - » Simple
 - » Easy to maintain
 - » Latest technology

OPERATOR PRODUCTIVITY

- + Operator Assist
 - » Reduces poor digging practices
 - » Enables consistent operator performance
 - » Provides equal or better cycle times
- + Enhanced in-cab training environment
- + Optional Payload technology

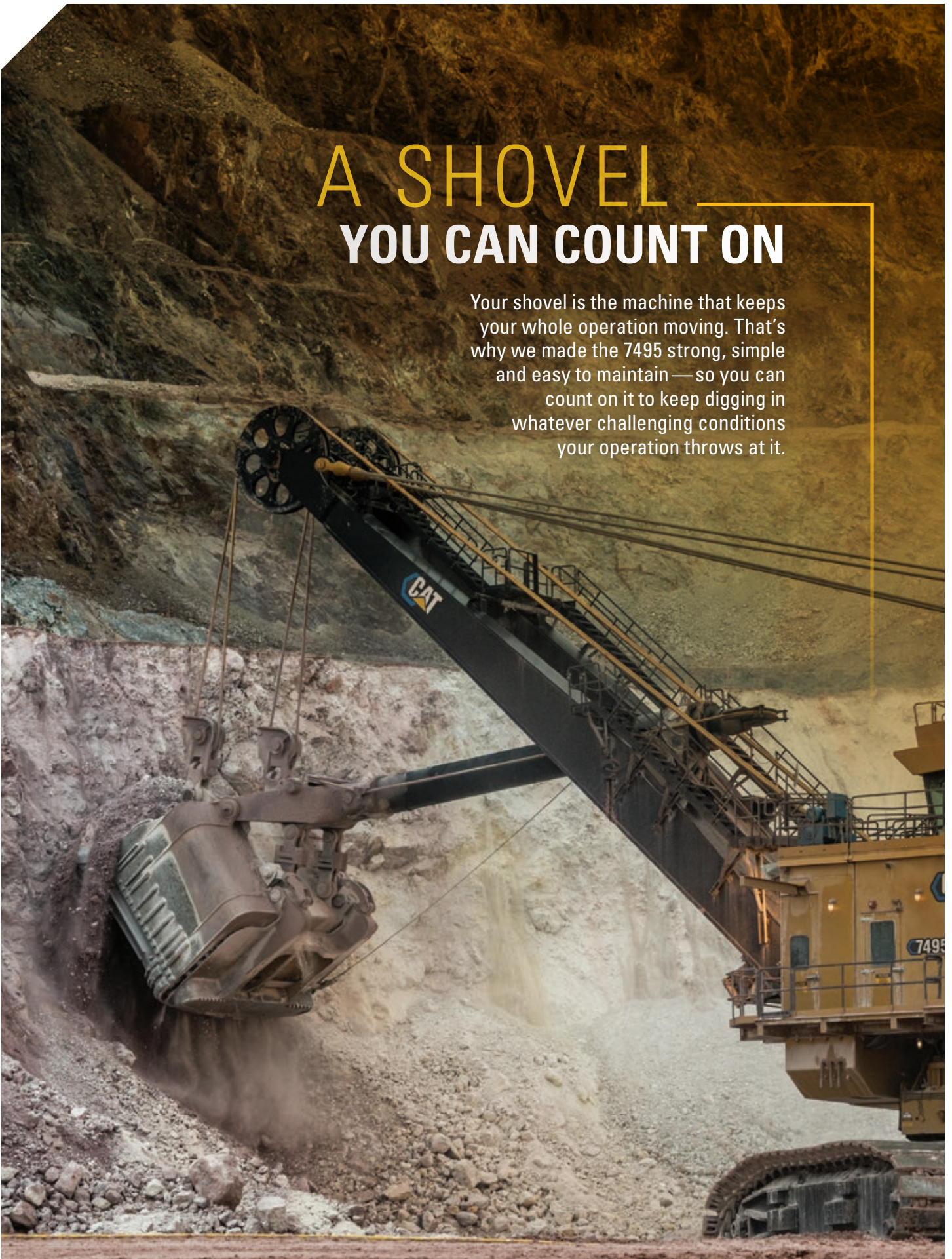


REDUCED ENVIRONMENTAL — IMPACT —

- + Efficient power usage
- + Zero direct carbon emissions produced
- + Power regenerated back to the grid

A SHOVEL YOU CAN COUNT ON

Your shovel is the machine that keeps your whole operation moving. That's why we made the 7495 strong, simple and easy to maintain — so you can count on it to keep digging in whatever challenging conditions your operation throws at it.



DURABLE DESIGN

The 7495 features a one-piece, forged dipper handle that's built tough to resist cracks. The rotating handle design transmits torsional stress into the hoist ropes instead of the boom and handle, extending the life of these major components. And all our crowd options are designed to absorb kickback force, reducing wear and tear on the junction between boom and dipper. The tubular handle also greatly reduces lube usage compared to standard rack-and-pinion designs — and it doesn't require the bi-annual re-racking those designs do.

The stress-relieved crawler frame is also highly resistant to cracking, with lower rollers that stand up better to uneven pit floors and other unstable conditions. The planetary drive is isolated from both ground impact and side thrust forces. Propel motors are mounted on the crawler, which can prevent misalignment and makes them easier to service.

The 7495HR Heavy Duty Track pad is a 40,000 hr track pad that demonstrates reliability and durability in hard rock applications. Thicker cross sections coupled with high hardness, high toughness material lead to improved performance and strength. The improved geometry allows for more accurate roller path wear measurements and reduces toenail trimming service events.

PROVEN ELECTRONICS

The IGBT electric drive system that powers the 7495 is built on over 40 years of experience and proven on more than 200 machines worldwide. It's a streamlined system with fewer parts, making it easier to maintain and more resistant to failure.

- + Simpler, modular configuration with no backplane wiring
- + Fuseless IGBT modules react faster and remove points of failure
- + Centralized control rack requires fewer parts
- + Robust, welded drive cabinet withstands severe, consistent vibration

THIRD RAIL SWING SYSTEM

Our unique third rail swing system reduces cycle times while extending component life by reducing wear on the swing rack and pinions.



LATCHFREE™ DIPPER SYSTEM

The patented LatchFree™ Dipper System replaces a standard maintenance-intensive latch assembly with a strong steel link mounted away from the flow of material. This keeps the sensitive components safe from the harsh conditions near the lower dipper door.



THE RIGHT TOOLS FOR THE JOB

The 7495 is a highly customizable machine, with configurations, crowd options, dippers, Ground Engaging Tools (GET) and more available to help it better meet your site's unique conditions. Some options can even be retrofit as conditions on your site change, allowing you to continue to get the best possible performance out of your machine.



CROWD OPTIONS

ROPE CROWD

Our traditional rope crowd system provides predictable, reliable performance. The tubular handle design needs no realignment, and the crowd and retract ropes absorb shock for reduced front-end cracking.

HYDRACROWD

By replacing the traditional rope crowd with a hydraulic cylinder, HydraCrowd extends maintenance intervals and improves productivity. It completely eliminates routine crowd/extract rope changes while maintaining all the benefits of our unique front-end design for increased efficiency and minimized downtime.

DIPPERS

STRAIGHT-SIDE DIPPER

Our standard box-shaped dipper offering is available in sizes up to 62.7 m³ (82 yd³), allowing it to meet any payload requirement. It's forged from cold-weather, impact-resistant, high-strength steel and designed to be easy to repair.

FASTFIL™ DIPPER

The trapezoidal FastFil™ Dipper accommodates the natural configuration of the load to eliminate voids, resulting in higher fill factors. Its reduced size and weight also contribute to faster cycle times. The FastFil Dipper is available in sizes up to 49.7 m³ (65 yd³).

LATCHFREE DIPPER

The LatchFree Dipper is our solution to the primary cause of rope shovel downtime. By replacing the maintenance-intensive latch assembly with a single, strong steel link mounted on the back of the dipper, it removes the need for daily maintenance on the latch and reduces wear on critical components. The LatchFree Dipper is available in sizes up to 57.34 m³ (75 yd³)



FLEXIBLE DESIGN

In addition to the standard 7495, we offer two special configurations designed to help customers pick a shovel that best suits their application.

7495 HF

Specifically designed for use in the Canadian oil sands, the 7495 HF features a high flotation undercarriage for low ground-bearing pressure. The wider lower works helps reduce ground bearing stress, resulting in better digging and loading in poor underfoot conditions.



7495 HD

A smaller machine, the 7495 HD is ideally sized for three-pass loading of 240-tonne trucks like the Cat 793. This makes it popular in hard rock applications, where it's proven itself as a highly reliable loading tool of its size on the market. While it lacks some of the features common to the 7495 and 7495 HF, it still provides the power, efficiency and reliability you expect from a Cat machine.



LOAD MORE EVERY CYCLE

The 7495 is designed to load trucks quickly and efficiently.

The lighter front end reduces swing inertia, improving swing times and operator control. Cycle times are also improved by the more responsive integral fast propel transfer switch, which reduces dig and propel mode transitions from 2.7 seconds to 700 milliseconds.

The third-rail swing system also decreases cycle times. Wide-set boom point sheaves with twin hoist ropes balance the dipper while it's in the bank, automatically distributing digging force where it's needed most and improving performance even in tough digging conditions.

ELECTRIC EFFICIENCY

As an all-electric machine, the 7495 is more efficient than a diesel-powered shovel. Less energy is wasted as heat loss, driving down your cost per ton. Its regenerative braking capability feeds energy from the swing back into the grid—turning power that would otherwise be wasted into savings for your operation.

MATCHED PRODUCTIVITY

Like all our loading tools, the 7495 is perfectly matched to Cat mining trucks, helping you achieve target payloads in the optimal number of passes. This maximizes the volume of material being moved at a lower cost per ton, directly benefiting the productivity and profitability of your operation. It also helps reduce truck bunching and queue times, keeping your haulage fleet running smoothly.



DESIGNED WITH THE OPERATOR IN MIND

We spent years gathering feedback from mining companies and operators all over the world so we could build a more comfortable and productivity-enhancing operator cab in the industry. It's packed with standard and optional features, technologies and enhancements that help operators stay alert, engaged and efficient all shift long.

COMFORT UPGRADES

- + Isolator mounts reduce vibration and fatigue
- + Ergonomic controls increase comfort and control
- + Updated climate control system automatically maintains preset temperature
- + Operator seat is fully adjustable with armrest and footrest that can be perfectly adjusted to a wide variety of body sizes
- + Intuitive, aesthetically designed displays with customizable brightness and contrast
- + Custom cabinets and refrigerator built to withstand shovel vibrations

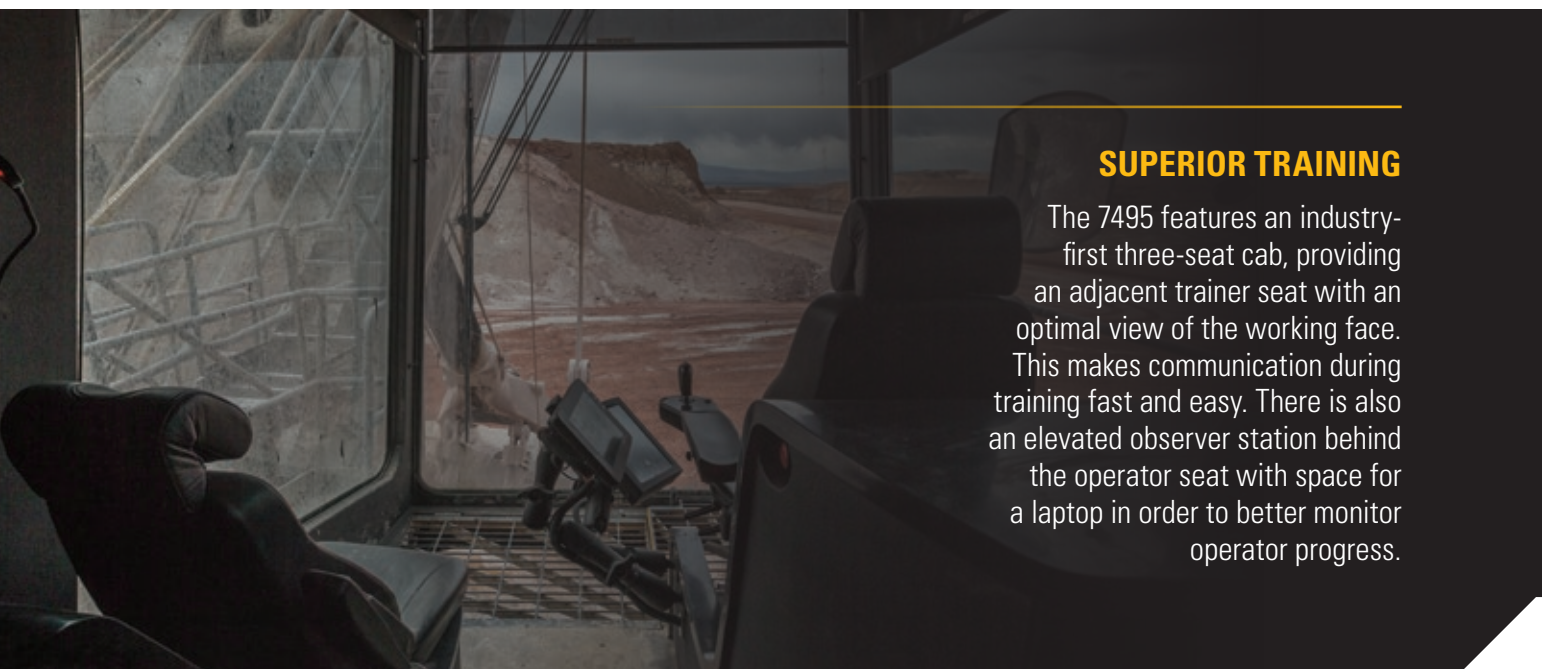


PERFORMANCE ENHANCEMENTS

- + New Hall Effect joysticks with custom-designed ergonomic handles and “finger touch” spring tension
- + Display screens give operator easy access to performance data
- + AccuLoad™ load weigh system provides real-time feedback to reduce over- and under-loading
- + Operator Assist makes loading more efficient, reduces poor digging practices, creates more consistent machine performance and reduces cycle times

SAFETY-INFUSED

- + Large, clean windows for superior far-side and vertical line of sight
- + Improved awareness with external camera system
- + Dual door for safe, easy access and egress
- + No-step floor
- + Emergency stop button in front of trainer seat

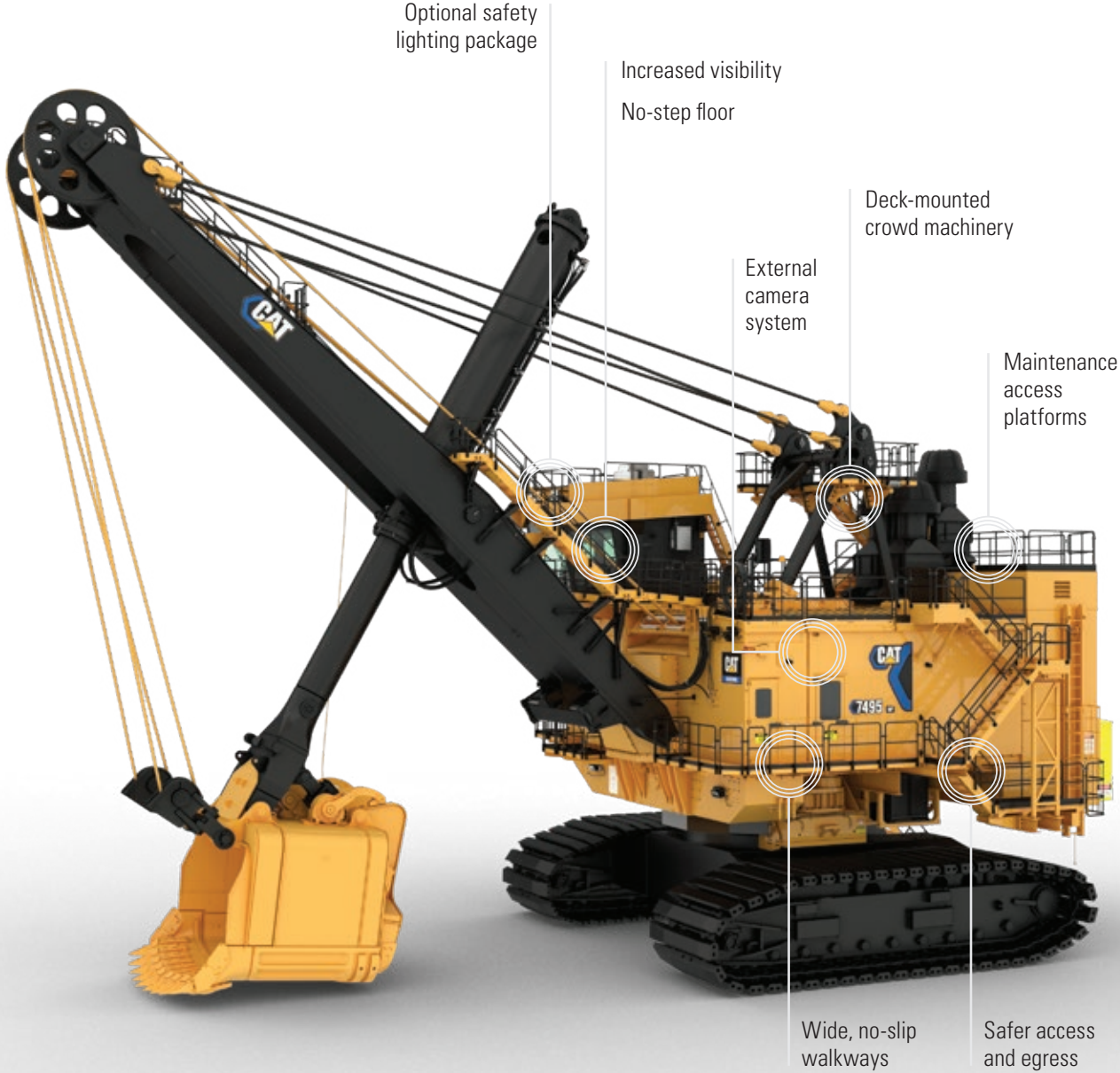


SUPERIOR TRAINING

The 7495 features an industry-first three-seat cab, providing an adjacent trainer seat with an optimal view of the working face. This makes communication during training fast and easy. There is also an elevated observer station behind the operator seat with space for a laptop in order to better monitor operator progress.

FOCUSED ON SAFETY

The 7495 is built to improve safety for the operator — and for everyone else working on your site. We've improved visibility, simplified service access, and implemented a wide variety of other features designed to protect your most important asset — your people.





SAFER ACCESS AND EGRESS

The cab can be accessed using a standard 45-degree boarding stair, as well as a left-hand emergency ladder that allows for a quick exit. We also offer an optional left-hand boarding stair to better suit your specific needs. All stairs, walkways, platforms and roof surfaces are lined with non-skid material.



STANDARD CAMERA SYSTEM

These five cameras are optimally positioned to give operators better situational awareness. They monitor blind spots around the machine, as well as critical maintenance areas, and feed directly to monitors in the cab.

WET DISK SNUBBER

Our revolutionary wet-disk snubber design reduces the need for personnel to work at height. It's designed to be adjustment- and maintenance-free for 12,000 hours, allowing you to set it and forget it.

SIMPLIFIED SERVICE

We built the 7495 to be faster, safer and easier to maintain so you can keep your operation moving. It's easier than ever to access maintenance areas from the walkways and platforms, as well as factory-installed ladders inside the boom and easy-to-remove roof hatches. The streamlined AC drive and third rail swing system offer easier access to key maintenance tasks, and all components have been manufactured for long life.

AUTOMATED MAINTENANCE PROCEDURES

Simple, repetitive maintenance tasks have been automated to reduce downtime and keep your machine running. An automatic lubrication system covers all regular lube points with no technician required, and the HydraCrowd system self-monitors pressure, contamination and pump condition.



BEARING TEMPERATURE MONITORING

The bearing temperature monitoring system reduces the risk of failure and helps you optimize your maintenance strategy by alerting operators whenever bearing temperatures exceed a preset point. By tracking trends, the system can also help you better predict maintenance needs to minimize downtime.

SERVICE IMPROVEMENTS

- + Walkways at all major service points
- + Platforms for gear inspection
- + Factory-installed boom ladders
- + White-painted interiors for easy crack inspection
- + Electro-hydraulic crowd rope take-up system simplifies rope tightening
- + Onboard diagnostic system identifies faults
- + Lock-out and tag-out points for safer service

OPTIONAL CONDITION MONITORING – VIBRATION

Allows customers to catch and repair small issues before they develop into costly failures.

- + Monitors vibration signals for changes allowing for proactive maintenance
- + Measures three-axis acceleration fields for crowd, hoist, and swing motors and gearboxes

EXTENDED MAINTENANCE INTERVALS

- + HydraCrowd eliminates routine crowd/retract rope changes, extending major maintenance interval to two years
- + The LatchFree dipper eliminates the daily hassle of maintaining a latch bar assembly

GAIN AN EDGE

WITH CAT® MINESTAR™ SOLUTIONS

In addition to our standard and optional onboard technology offerings, the 7495 can be retrofitted with Cat MineStar™ solutions, a comprehensive suite of mining technologies that can help you optimize your operation. Available offerings include:



FLEET, which provides real-time machine tracking, assignment and productivity management, providing a comprehensive overview of all your asset operations from anywhere in the world.



HEALTH, which delivers critical event-based machine condition and operating data for your entire fleet. It includes comprehensive equipment health and asset monitoring capabilities, with a wide range of diagnostic, analytic and reporting tools.



TERRAIN, which enables high-precision management of drilling, dragline, grading and loading operations through the use of guidance technology. It increases machine productivity and provides you real-time feedback for improved efficiency.



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 shovels help you meet those regulations.

The 7495 is a completely electric machine, making efficient use of energy to reduce environmental impact. It produces fewer emissions than diesel-powered machines, and its regenerative braking system prevents electricity from being wasted. Long component lifecycles mean fewer changeouts and less waste when compared to similar-sized hydraulic machines.

And the 7495's motor and gearcase are built to be rebuilt, allowing you to extend the life of your machine and get years of like-new performance at a reduced cost—and with less waste produced.





PARTNERS IN YOUR PERFORMANCE

Our commitment to your success doesn't end when your 7495 starts digging. We immediately start looking for ways to make your shovel work more efficiently, safely and productively. From addressing performance issues, to training operators and technicians, to calibrating onboard technologies — our support of your shovel productivity is ongoing.

SUPPORT FOR THE COMPLETE EQUIPMENT LIFECYCLE

No one knows more about how to get the most from a piece of Cat equipment than Caterpillar and your local Cat dealer. We start with validation and testing of the machine and continue through the complete lifecycle of the shovel.

The one-of-a-kind Cat dealer support network delivers expert service, integrated solutions, after-sales support, fast and efficient parts fulfillment, 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.

Caterpillar and Cat dealer personnel will work with you on site to improve the performance not only of your shovels but of your overall loading and hauling operation. You'll have access to parts and service, as well as technicians who are focused on helping you optimize repairs to keep machines productive. 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 help you get more 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 expert 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**

The 7495 is perfectly matched to Caterpillar's line of mining trucks to ensure an efficient loading cycle. We offer a complete loading and hauling solution that delivers a lower cost per ton. From iron to engines, hydraulics to electronics, software to hardware, transmissions to ground engaging tools — systems work together to deliver enhanced performance and a better bottom line.



7495

PASS MATCH



794 AC

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796 AC

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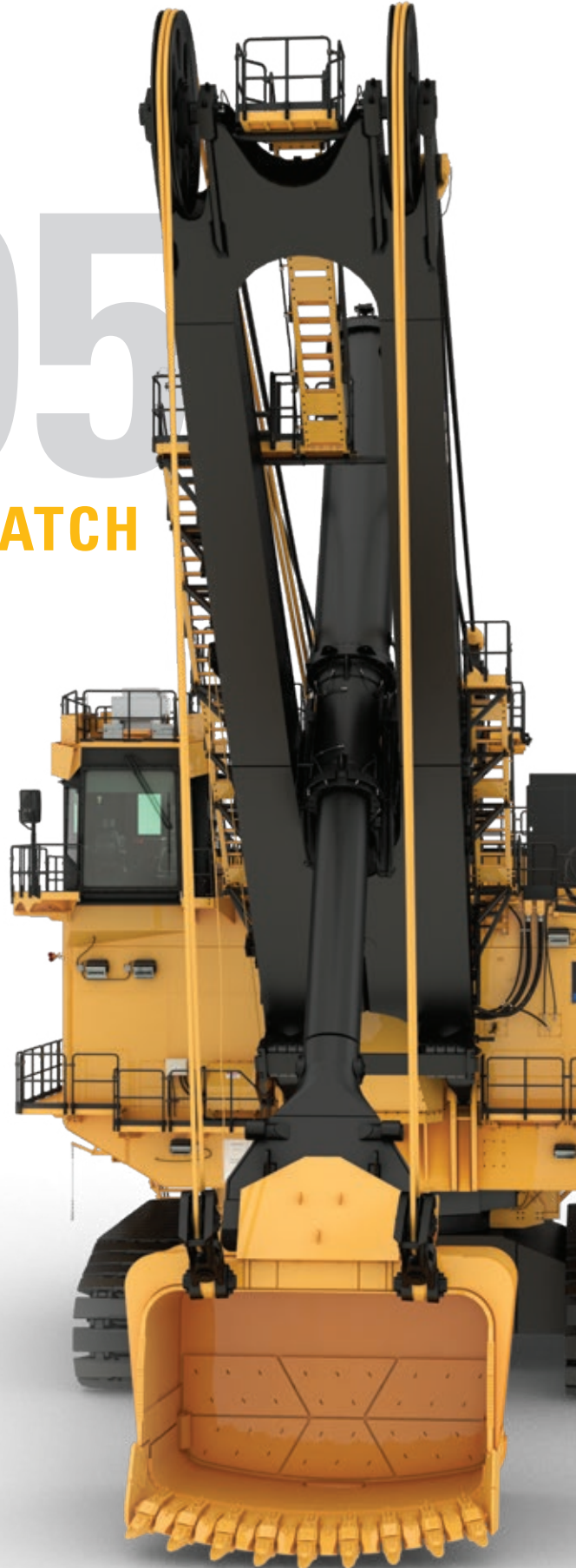
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798 AC

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TECHNICAL SPECIFICATIONS

See cat.com for complete specifications.

DIMENSIONS – WITH HYDRACROWD		
Dipper payload (Available dipper payloads up to 109 tonnes (120 tons) when specified)	109 tonnes	120 tons
Dipper capacity	30.6-62.7 m ³	40-82 yd ³
+ Dependent on application and material density		

WEIGHTS* – WITH HYDRACROWD		
Working weight, with dipper and standard links	1 390 714 kg	3,066,000 lb
Ballast (furnished by customer)	302 614 kg	667,150 lb
+ These weights will vary slightly depending upon dipper and optional equipment selection		
* All specifications are based on a 56 m ³ (73 yd ³) dipper and standard 200.7 cm (79 in) treads		

MAIN STRUCTURES – WITH HYDRACROWD		
Upper works overall width (including standard walkways)	12.8 m	41 ft 11 in
Crawler Dimensions		
Overall width 200.7 cm (79 in) treads, standard	11 m	36 ft
Overall width 259.1 cm (102 in) treads	11.6 m	38 ft
Ground Bearing Pressure		
Total effective bearing area 200.7 cm (79 in) treads, standard	36 m ² 382 kPa	386 ft ² 55 psi
Total effective bearing area 259.1 cm (102 in) treads	46.6 m ² 298 kPa	501.7 ft ² 43 psi
+ Ground bearing pressure is dependent upon many factors		
Planetary Propel		
+ Dual-motor independent drive		
Swing		
+ Two planetary gearboxes, each driven by a vertically mounted motor, are located on either side of the revolving frame. Dual-output pinion shafts from each gearbox engage the swing rack.		
Hoist		
+ A planetary gearbox with dual-output pinions provides the hoist torque transfer from the electric motor to the hoist drum gear.		

LUBE SYSTEM – WITH HYDRACROWD	
+ Automatic, single-line system for open gear lubricant and grease	
+ Six pumps (four for open gear lubricant and two for grease) located in an insulated, heated, double-walled lube room	
+ External FastFil from lower level	

ELECTRICAL – WITH HYDRACROWD	
Drive	IGBT Acutrol drive system
Power Requirements	
Voltage	3 phase, 50/60 Hz, 7,200V
50 Hz	6,000V, 6,600V, 7,200V, 11,000V
60 Hz	7,200V, 13,800V
Average power demand	945-1322 kW
Peak power	3778 kW
+ Other voltage options available to suit customer requirements	

FRONT END – WITH HYDRACROWD		
One piece, forged, seamless tubular dipper handle and wide-spread boom point sheaves equipped with hoist ropes and dipper padlocks to stabilize dipper handle.		
Rope Data	No.	Diameter
Hoist	2	70 mm (2.75 in)
Boom suspension	4	92mm (3.63in)
Dipper trip	1	19 mm (0.75 in)
+ High impact ropes available as an option		
Crowd		
HydraCrowd, hydraulic power skid, located at the front center of the revolving frame deck, powers a large hydraulic cylinder to move the dipper handle fore and aft.		
(Optional) Rope Crowd, the crowd machinery is located at the front center of the revolving frame, consisting of motor, brake, drum and gearing. Plastic-impregnated crowd and retract ropes are used to move the dipper handle fore and aft.		

DIMENSIONS – WITH ROPE CROWD

Dipper payload (Available dipper payloads up to 109 tonnes (120 tons) when specified)	109 tonnes	120 tons
Dipper capacity	30.6-62.7 m ³	40-82 yd ³
+ Dependent on application and material density		

WEIGHTS* – WITH ROPE CROWD

Working weight, with dipper and standard links	1 386 178 kg	3,056,000 lb
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Crawler Dimensions		
Overall width 200.7 cm (79 in) treads, standard	11 m	36 ft
Overall width 259.1 cm (102 in) treads	11.6 m	38 ft
Ground Bearing Pressure		
Total effective bearing area 200.7 cm (79 in) treads, standard	36 m ² 380 kPa	386 ft ² 55 psi
Total effective bearing area 259.1 cm (102 in) treads	47 m ² 297 kPa	501 ft ² 43 psi
+ Ground bearing pressure is dependent upon many factors		
Planetary Propel		
+ Dual-motor independent drive		
Swing		
+ Two planetary gearboxes, each driven by a vertically mounted motor, are located on either side of the revolving frame. Dual-output pinion shafts from each gearbox engage the swing rack.		
Hoist		
+ A planetary gearbox with dual-output pinions provides the hoist torque transfer from the electric motor to the hoist drum gear.		

LUBE SYSTEM – WITH HYDRACROWD

- + Automatic, single-line system for open gear lubricant and grease
- + Six pumps (four for open gear lubricant and two for grease) located in an insulated, heated, double-walled lube room
- + External FastFil from lower level

ELECTRICAL – WITH ROPE CROWD

Drive	IGBT Acutrol drive system
Power Requirements	
Voltage	3 phase, 50/60 Hz, 7,200V
50 Hz	6,000V, 6,600V, 7,200V, 11,000V
60 Hz	7,200V, 13,800V
Average power demand	934-1308 kW
Peak power	3737 kW
+ Other voltage options available to suit customer requirements	

FRONT END – WITH ROPE CROWD

One piece, forged, seamless tubular dipper handle and wide-spread boom point sheaves equipped with hoist ropes and dipper padlocks to stabilize dipper handle.

Rope Data	No.	Diameter
Hoist	2	70 mm (2.75 in)
Crowd	1	64 mm (2.5 in)
Retract	1	64 mm (2.5 in)
Boom suspension	4	92mm (3.63in)
Dipper trip	1	19 mm (0.75 in)

+ High impact ropes available as an option

Crowd

Rope Crowd with the crowd machinery is located at the front center of the revolving frame, consisting of motor, brake, drum and gearing. Plastic-impregnated crowd and retract ropes are used to move the dipper handle fore and aft.

(Optional) HydraCrowd, hydraulic power skid, located at the front center of the revolving frame deck, powers a large hydraulic cylinder to move the dipper handle fore and aft.



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ELECTRIC ROPE SHOVEL

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

AEHQ8529

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

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