

7495 HF

Electric Rope Shovel



Dimensions/Working Ranges

Dipper payload	109 tonnes	120 tons
Dipper capacities	30.6-62.7 m ³	40-82 yd ³
Operating weight – HydraCrowd™	1 435 156 kg	3,164,000 lb
Operating weight – Rope Crowd	1 431 064 kg	3,155,000 lb
Maximum dumping height	9.0 m	29 ft 8 in

Electrical

Drive	IGBT Acutrol drive system
System voltage (nominal)	50/60 Hz, 7,200V

7495 HF Features

At Caterpillar, we understand that:

- You work around the clock to meet the demand for commodities.
- Production machines, like the electric rope shovel, have a profound impact on your operation's cost-per-ton and overall production.
- You need a loading tool that works as efficiently, reliably and cost-effectively as possible.

To help you meet these challenges, lower your cost-per-ton, and take your productivity to new levels, we continue to improve the design and technology of our electric rope shovel through ongoing research and innovation.

Contents

AC IGBT Electrics.....	4
Operator's Cab.....	6
Front-end Design.....	8
Crowd Systems.....	10
LatchFree™ Dipper System.....	12
Dipper Options.....	13
Loading/Hauling Efficiency.....	14
Third Rail Swing System.....	15
Cat® MineStar™ and Technology Solutions.....	16
Major Structures.....	18
Lower Works.....	19
Safety.....	20
Serviceability.....	21
Customer Support.....	22
Operator Training.....	24
Sustainability.....	25
Specifications.....	26
Notes.....	30



Proven Productivity at a Lower Cost-per-ton



Electric rope shovels have been successfully removing overburden and ore on mine sites around the world for more than a century. Driven by a vision to make these highly productive machines safer, more reliable and even more productive, we challenged the status quo and built an electric rope shovel that's better.

AC IGBT Electric

Simple, Safe and Robust Electric



Tried and True AC IGBT Electric Drive System

You will experience greater machine uptime, lower operating costs, and faster cycle times via our AC electric rope shovel designs that leverage institutional knowledge built on 30 years of experience commissioning more than 200 AC equipped machines worldwide.

A Simpler System

A streamlined AC system design that runs smoother, has fewer parts, and is easier to maintain, are the benefits you will realize, and the result of three decades of continuous improvement.

- A single, centralized control rack reduces parts requirements, eliminates communication issues between racks, and simplifies maintenance
- A single, compact drive cabinet houses the controller and drives to simplify assembly, troubleshooting, and maintenance
- Fuses, circuit breakers, and line filters have been eliminated reducing potential points of failure and overall parts requirements
- Parallel inverters have been removed to prevent uneven loading and to reduce the number of inverters required by the system
- The IGBT modules have been designed to be interchangeable between inverters and Active Front Ends (AFEs) and between motions and machines

A Safer System

Your safety remains our highest priority, and is evident in our AC system design.

- The high voltage DC bus is located in the back of the drive cabinet and is never exposed during maintenance or troubleshooting
- The centralized control rack keeps maintenance personnel away from high voltage components when troubleshooting the controller
- Shielding blocks induced currents eliminating the need for high frequency bonding

A Robust System

Helping to ensure your rope shovel remains in service, our AC system is designed to perform in the toughest mining conditions.

- The robust, welded drive cabinet was designed to withstand severe and consistent vibration
- An isolated, positive-pressure room houses the drive/controller cabinet to protect it from dust and debris
- Mine-grade components are used to ensure system performance and long, trouble-free life



Operator's Cab

Maximize Operator Comfort and Safety to Boost Productivity



Comfort Infused, State-of-the-art Operator's Cab and Station

Providing more comfort, added safety, and greater reliability, our newly designed state-of-the-art operator's cab will help you produce more. The product of a multi-year collaboration with mining companies and rope shovel operators from across the globe, our Design Engineers, armed with insights into the aspects most desired by you, have designed what we believe to be the most comfortable and productivity-enhancing operator's cab in the industry.

Improved Performance

Increase productivity, and your bottom line, with our comfort-infused cab.

- Reduced fatigue-causing vibration resulting from bolstered support and stability of extended machinery house underneath isolator mounted cab
- Operator seat, armrests, and footrest adjust to perfectly fit a wide-range of body sizes
- Effortless operation and improved control response resulting from new, Hall Effect joysticks (patent pending), with custom-designed ergonomic handles and "finger touch control" spring tension
- Reduced cognitive fatigue and enhanced productivity via the intuitive and visually aesthetic display screens
- Display screens adjust for brightness and contrast to meet operator preference
- Climate control system automatically maintains a preset temperature





Enhanced Safety

Ensure the safety of your operators with industry-leading cab safety features.

- For safer double-side loading and reduced crawler link damage, the large windshield, side windows, and floor window provide superior far-side and vertical line of sight for industry-leading visibility
- Augmented line of sight and improved operator situational awareness via external camera system with direct feed to five overhead monitors in cab
- Dual door design facilitates easy entry and exit from the cab and provides for rapid escape in case of highwall collapse or other emergencies
- Reduced trip hazards with no-step floor
- Enhanced safety during operator training with additional emergency stop button within reach of trainer seat

Better Training

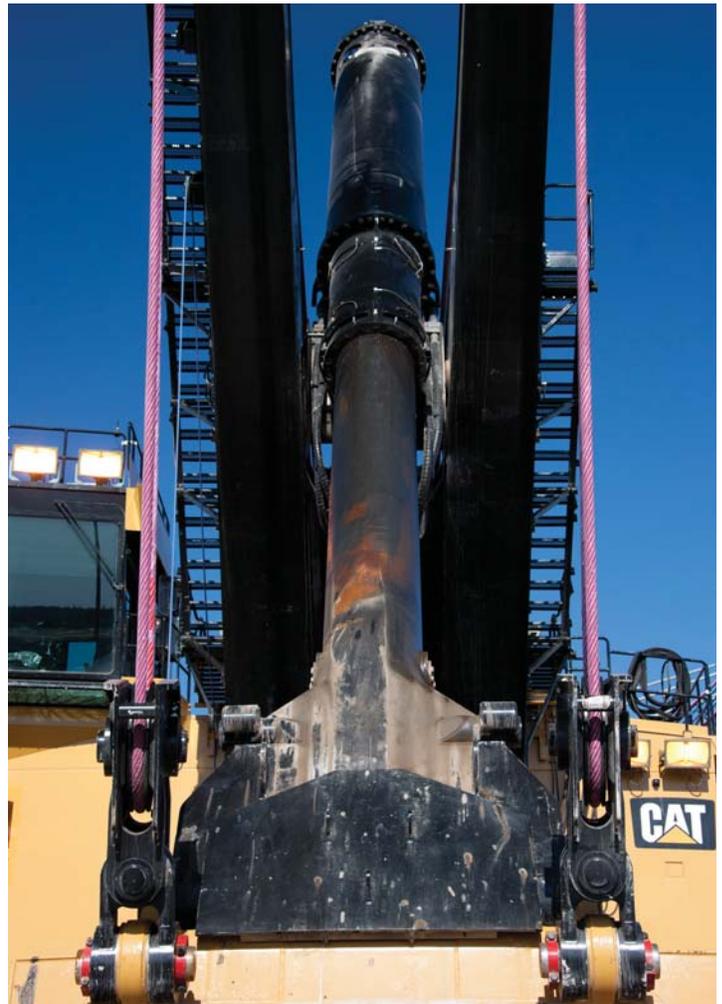
Reap learning and performance benefits from the enhanced training environment of our first-in-industry three-seat cab design.

- State-of-the-art, ergonomic operator's seat maximizes operator comfort and productivity
- Adjacently positioned trainer seat provides optimal view of working face, facilitates communication during training, and provides ready access to the trainer emergency stop button
- Elevated observer's work station, positioned behind the operator seat, provides space for laptop and optimum visibility of operator station and digging environment

More Reliability

To ensure consistent and reliable performance in the harshest mining conditions, cab components were carefully selected for ruggedness.

- Custom cabinets designed to eliminate rattling
- Heavy-duty refrigerator built to withstand shovel vibrations
- High efficiency, adjustable LED lights optimize visibility



Front-end Design

Reduced Front-end Weight,
Reliable Structural Strength

Safety, Reliability and Productivity Advantages Afforded by Our Unique Design

Greatly improved digging efficiency, safety, and component life are the results of our unique, yet robust front-end design, particularly when compared to rack-and-pinion systems.

Faster Cycle-times, Improved Line-of-sight, and Safer Maintenance

Enhance both loading safety and productivity at your mine with a lighter front-end that affords better line-of-sight and serviceability.

- Faster swing times resulting from reduced swing inertia of lighter front-end
- Improved left-hand line-of-sight with deck-mounted crowd machinery that reduces visibility-impeding components on the boom
- Reducing fall hazards, deck-mounted crowd machinery allows the majority of crowd maintenance to be completed from the protection of the machinery house deck

Reduced Cracking and Extended Component Life

Experience greater uptime and component reliability with our unique, yet robust front-end design

- Highly crack resistant one-piece, forged dipper handle
- Extending boom and dipper handle life, rotating handle design transmits torsional stress into the hoist ropes
- Reducing wear and cracking at the boom/dipper handle junction, crowd and retract ropes or hydraulic fluid absorb kickback force caused by dipper colliding with poorly shot material
- Replacing racks and pinions with tubular handle and ropes or hydraulic cylinder greatly reduces lube usage

Easier, More Efficient Digging

Realize more productive and efficient digging facilitated by our wide-set boom point sheaves.

- Twin hoist ropes balance dipper pull in the bank via wide-set boom point sheaves, automatically distributing digging force where it is needed most

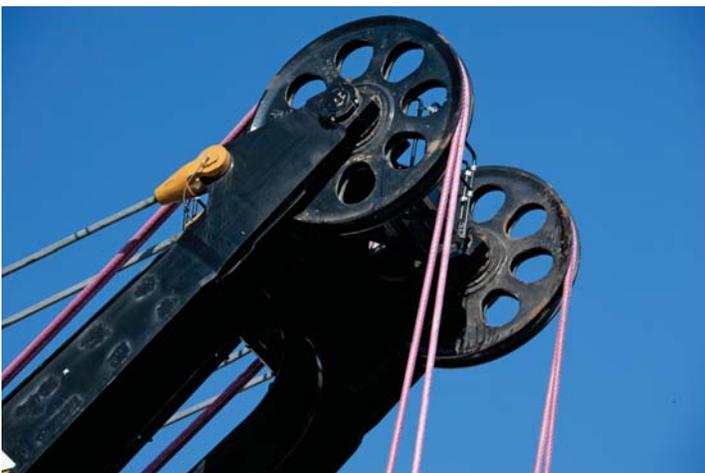
Simplified Maintenance

Get your primary loading tool back to work quickly with simpler, more straight-forward maintenance.

- Design facilitates handle installation and requires fewer adjustments
- Crowd and retract rope adjustments are made from the safety of the machinery house roof – rather than on the boom, as required by rack and pinion systems
- Elimination of bi-annual, major maintenance handle re-racking procedure with tubular handle instead of racks

Description of Cat Front-end

- Stress-relieved, impact resistant steel boom with twin box girder design – 100% penetration and UT quality welds on all major splice joints
- Modular, deck-mounted crowd assembly includes AC motor, spring-set air-release disc brake, and hydraulic power pack (HydraCrowd only)
- Maintenance-free, one-piece, high-alloy, forged steel handle designed to rotate freely in the saddle block
- Saddle block, with one-piece liner, rotates about shipper shaft on a manganese bronze bushing, guiding the longitudinal movement of the handle



Crowd Systems

Reduce Torsional Stress and Extend Component Life with Our Traditional and Innovative Designs



Results Are What You'll Get from Either Crowd System

Each providing outstanding performance and high reliability, you have two crowd system designs to choose from. Our traditional rope crowd is a tried-and-true design, proven reliable in mine sites across the globe for three-quarters of a century. The innovative HydraCrowd goes a step further, making maintenance more predictable and keeping your rope shovel in production longer.

HydraCrowd

Eliminates Routine Crowd/Retract Rope Replacements

HydraCrowd extends maintenance intervals and improves your overall productivity with a patented innovative design that replaces crowd and retract ropes with a hydraulic cylinder.

- Increases uptime and enhances productivity via reduced scheduled maintenance hours
- Eliminates routine crowd/retract rope changes
- Extends major maintenance interval to two years
- Maintains the benefits of our unique front-end design

Description of HydraCrowd

- Four bent-axis, fixed-displacement pumps feed a single cylinder inside the tubular dipper handle
- Hydraulic power pack located in the front of the machinery house
- System controlled by proven Cat IGBT technology
- Large-capacity, dirt-tolerant cartridge valves provide high reliability and long service life
- Diagnostic software and troubleshooting system with step-by-step instructions inherent in the PLC controls

Rope Crowd

Consistent Performance, Trusted Reliability

Our traditional rope crowd provides predictable and reliable performance established over 75 years.

- Rack and pinion misalignment challenges are eliminated with our tubular handle design
- Front-end cracking is reduced, as crowd and retract ropes absorb shock
- Torsional stress is eliminated, when using proper digging techniques, with our rotating dipper handle, reducing cracking and extending component life



LatchFree™ Dipper System

Preventing Downtime with
a Revolutionary Approach



Avoid the Leading Cause of Rope Shovel Downtime for Over a Century

Spend more time digging, and less time performing unplanned dipper maintenance with the LatchFree Dipper System.

The first successful solution to the number-one cause of rope shovel downtime, the LatchFree Dipper System replaces the maintenance-intensive latch assembly with a strong steel link mounted to the dipper back, away from material flow. To ensure you achieve maximum benefits, the system comes complete with a comprehensive training program.

Improved Safety

- Enhances safety by eliminating daily maintenance on the latch bar, latch keeper, shims, and inserts

Greater Uptime

- Improves reliability by eliminating the electric rope shovels' leading downtime occurrence: maintenance on the latch assembly

More Productive Digging/Loading

- Increases efficiency by reducing lost loads

Better Component Life

- Reduces component wear by relocating components away from the harsh conditions of the lower dipper door

Description of LatchFree Dipper System

- A strong steel holding link and eccentric replace the traditional dipper latch assembly
- Components are mounted to dipper back, rather than dipper door, away from the material flow
- The door closes by gravity as the dipper is lowered
- Comes complete with a comprehensive training program

Dipper Options

Longer Dipper Life

Meet the Challenges of Any Mining Environment with Two Design Options

Providing extended dipper life and optimal fit with your application, our FastFil™ and Straight-Side Dippers help you move more.

- Manufactured from cold-weather, impact-resistant, high strength steel for strength and durability
- Stress relieved dipper back to prevent cracking
- Key welds inspected using nondestructive testing
- Expertly sized for your application
- Designed for easy repair

Straight-Side Dipper

Maximized Payload Capability

Offering a larger payload range, our Straight-Side Dipper maintains quality and reliability of our FastFil Dipper design.

- Box shape design accommodates larger dipper sizes
- Available in sizes up to 62.7 m³ (82 yd³)

FastFil Dipper

Faster, Fuller Dipper Loads

Improving fill factors and helping you hit your productivity targets the trapezoidal shape of our FastFil Dipper accommodates the natural configuration of the load, eliminating voids that occur with box-shaped dippers.

- Trapezoidal shape eliminates the void that occurs at the back of the dipper with the traditional dipper shapes
- Improved maneuverability and faster swing times resulting from reduced dipper size and weight
- Improved bank penetration and elimination of bulldozing for material turbulence due to optimized lip and rake angles
- Reduced load and dump times facilitated by shorter dipper body
- Fill factors average > 100% (110% typical)
- Available in sizes up to 49.7 m³ (65 yd³)



Loading/Hauling Efficiency

Move More Material with Optimal Pass Match Pairings

Achieve Targeted Loading/Hauling Production with Perfectly Paired Cat Rope Shovels and Mining Trucks

For full truck payloads with minimum loading time, an efficient loading/hauling system begins with an optimized equipment match. Cat electric rope shovels are matched with Cat mining trucks to maximize volume of material moved at the lowest operating cost per ton.



7495 HF Pass Match with Cat Mining Trucks

	797F	795F AC	793F	793D
	363 tonne (400 ton)	313 tonne (345 ton)	226.8 tonne (250 ton)	220 tonne (240 ton)
7495 HF	4	3	2	2

7495 HF Pass Match with Unit Rig™ Mining Trucks

	MT6300 AC	MT5500 AC	MT5300D AC	MT4400D AC
	363 tonne (400 ton)	327 tonne (360 ton)	290 tonne (320 ton)	220 tonne (240 ton)
7495 HF	4	3	3	2



Third Rail Swing System

Faster Cycle Times and Extended Component Life

Providing optimum speed and cycle time, all while extending component life, our swing system is designed to help keep your rope shovel swinging longer and filling trucks faster.

Even Loading

Achieve maximum component life with our swing system design that ensures reduced and even swing rack wear.

- Eliminating the need to rotate the swing rack, two swing gearcases, positioned 180° apart, produce even swing rack wear
- Reducing wear on the swing rack and swing pinions, straddle-mounted, dual-output pinions decrease tooth loading

Better Serviceability

Mean-time to repair is reduced, as most repairs involve the third rail, rather than the rollers.

- The easy-to-replace third rail, rather than roller flanges or the swing rack, serves as the primary wearing part in the system, greatly simplifying maintenance
- Provides roller access without jacking up the upper half of the machine





Cat MineStar and Technology Solutions

Evolving Your Mine for Greater Safety and Productivity

Helping You Enhance Safety and Productivity Through Technology

Aimed at enhancing the productivity and profitability of your rope shovel, we currently offer a combination of Cat Electric Rope Shovel technology solutions including MineStar offerings.

Cat MineStar

Helping you achieve your goals for enhanced mine site safety, improved efficiency, reduced operating costs, and greater profitability, Cat MineStar provides the most comprehensive suite of mining technology products in the industry. It consists of a number of configurable capability sets – Fleet, Terrain, Detect, Health, and Command – that allow you to scale the system to your mine site needs. Cat MineStar helps you manage everything from material tracking to sophisticated real-time fleet management, machine health systems, autonomous equipment, and more.

The Cat 7495 HF is currently able to utilize three of the Cat Minestar capability sets:

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

EMSolutions

Cat EMSolutions puts your dealer's expertise and services to work with the latest equipment management technologies to help you reduce operating costs, get more value from your equipment and meet the unique needs of your business. With five levels of EMSolutions to choose from, you'll get all the support you want, without paying for services you don't need. Services can include condition monitoring (CM) services through the use of Cat Equipment Care Advisor (Cat ECA).

Optional Technology Solutions

AccuLoad

Improve productivity with real-time dipper load feedback directly to operators.

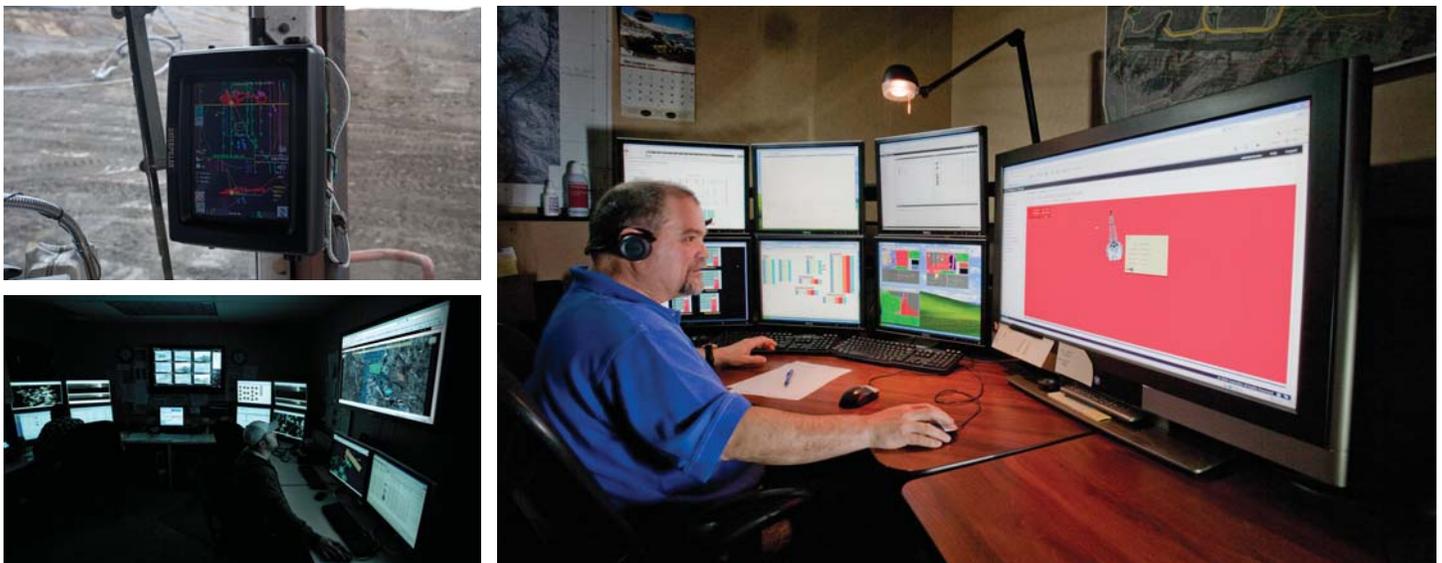
- Improves productivity by allowing operator to monitor load and shift performance
- Reduces machine and truck overloading

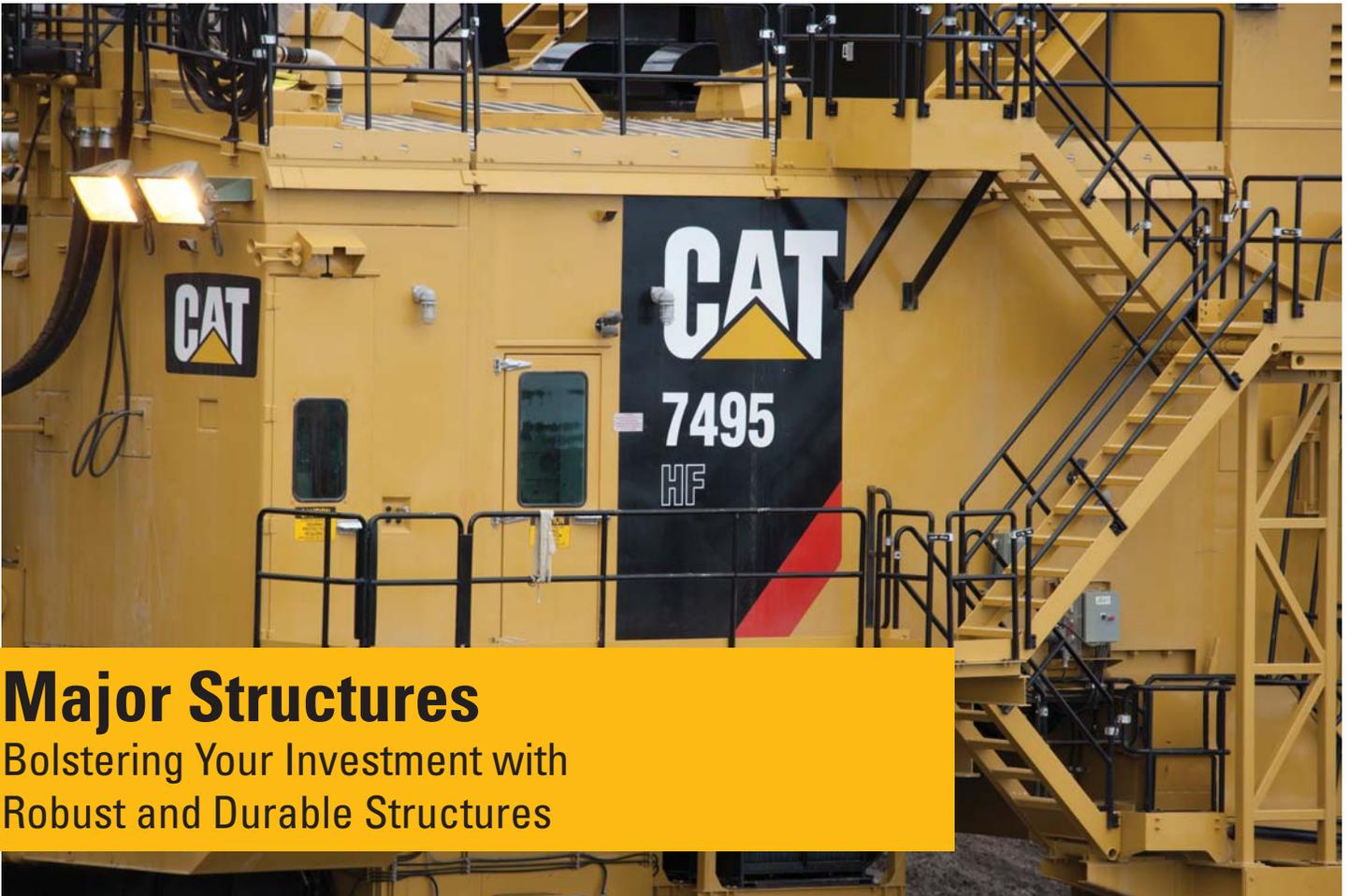
Bearing Temperature Monitoring

Better maintenance predictability and reduced risk of failure via bearing temperature monitoring, a system that monitors bearing temperature and alerts operator of high temperatures.

- Helps predict maintenance through bearing temperature trending
- Reduces risk of major failure

Please speak to your local dealer for more information on the technology solutions for your 7495 HF electric rope shovel.





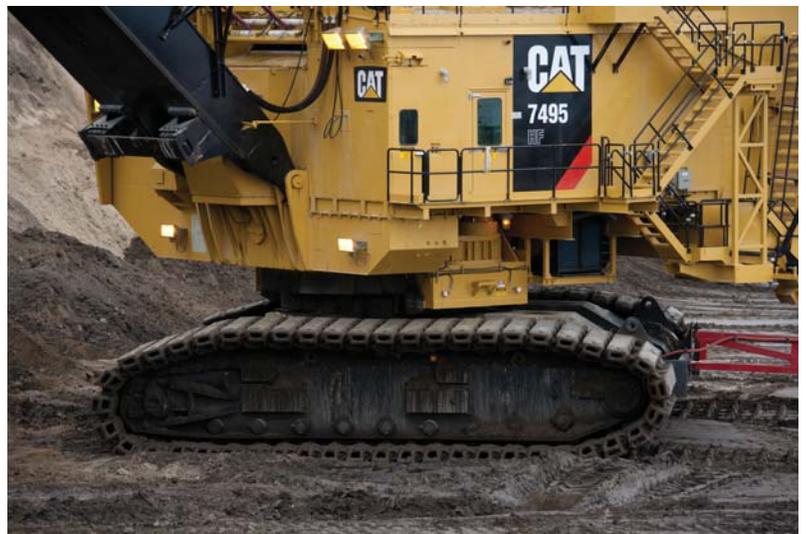
Major Structures

Bolstering Your Investment with Robust and Durable Structures

Rugged Structures Designed and Fabricated to Withstand Your Extreme Mining Conditions

To extend service life and ultimately reduce your maintenance cost, all major rope shovel structures are designed for durability and dependability. Extended performance in the harsh mining conditions you face daily is accomplished through selection of high-strength steels, and rugged castings, joined and thermally stress-relieved to create a reliable shell capable of one of the most productive loading tools in the industry.

- Manufactured from cold-weather, impact-resistant, high strength steel for strength and durability
- Full penetration, profiled and ground welds at critical junctures
- MT, UT, and X-ray inspections on select welds ensure quality
- Structures are stress relieved to prevent cracking
- Manholes and ladders assist inspection
- White painted interiors facilitate crack inspection



Lower Works

Keep Moving in All Mining Conditions



Enhanced Maneuverability, Extended Component Life, and Consistent Reliability Are the Foundation of This Powerful Machine

Intended to enhance digging/loading capability, ground footing, and mobility, a newly designed propel system and battle tested crawlers come standard on all Cat electric rope shovels.

- Stress relieved crawler frames resist cracking
- Lower rollers design withstands periodic single-point ground reaction caused by uneven pit floors
- Crawler-mounted propel motors facilitate maintenance and reduce misalignment
- Upward slanted propel motor shelves protect components from rocks and water
- Elevated drive tumbler isolates planetary drive from ground impact shock loads
- Sprocket-style drive tumbler lugs provide a large area of contact against the crawler links for extended tumbler and link life
- Straddle-mounted rollers improve component wear and extend life



High-Flotation (HF) Undercarriage Design

Designed specifically for soft ground conditions, like those found in the Canadian oil sands mines, our high-flotation undercarriage ensures low ground-bearing pressure for improved digging, loading, and productivity.



Safety

Designed with Your Safety as Our Top Priority

Sharing your commitment to safety, and driven by our commitment to Zero Harm, we work tirelessly to design the safest machines possible to protect your most important asset; your employees.

Machine Access

- Forty-five degree rear facing boarding stair provides fast and convenient access to the machine
- Non-slip stairs, platforms and walkways facilitate safe movement around the machine

Visibility

- Panoramic view from the operator's seat offers the best far-side visibility in the industry
- Cameras feed five in-cab, overhead monitors to augment line of sight and elevate situational awareness

Operator Environment

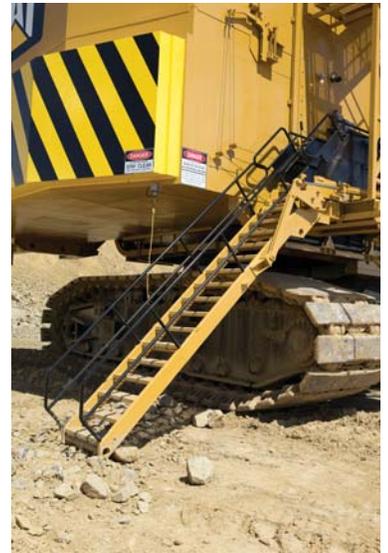
- Dual door design facilitates entry and exit from cab and provides a quick escape in case of a high wall collapse
- No-step floor reduces trip hazards
- Operator training seat facilitates safe operator training
- Second emergency stop button allows the trainer to stop the machine to avoid an accident

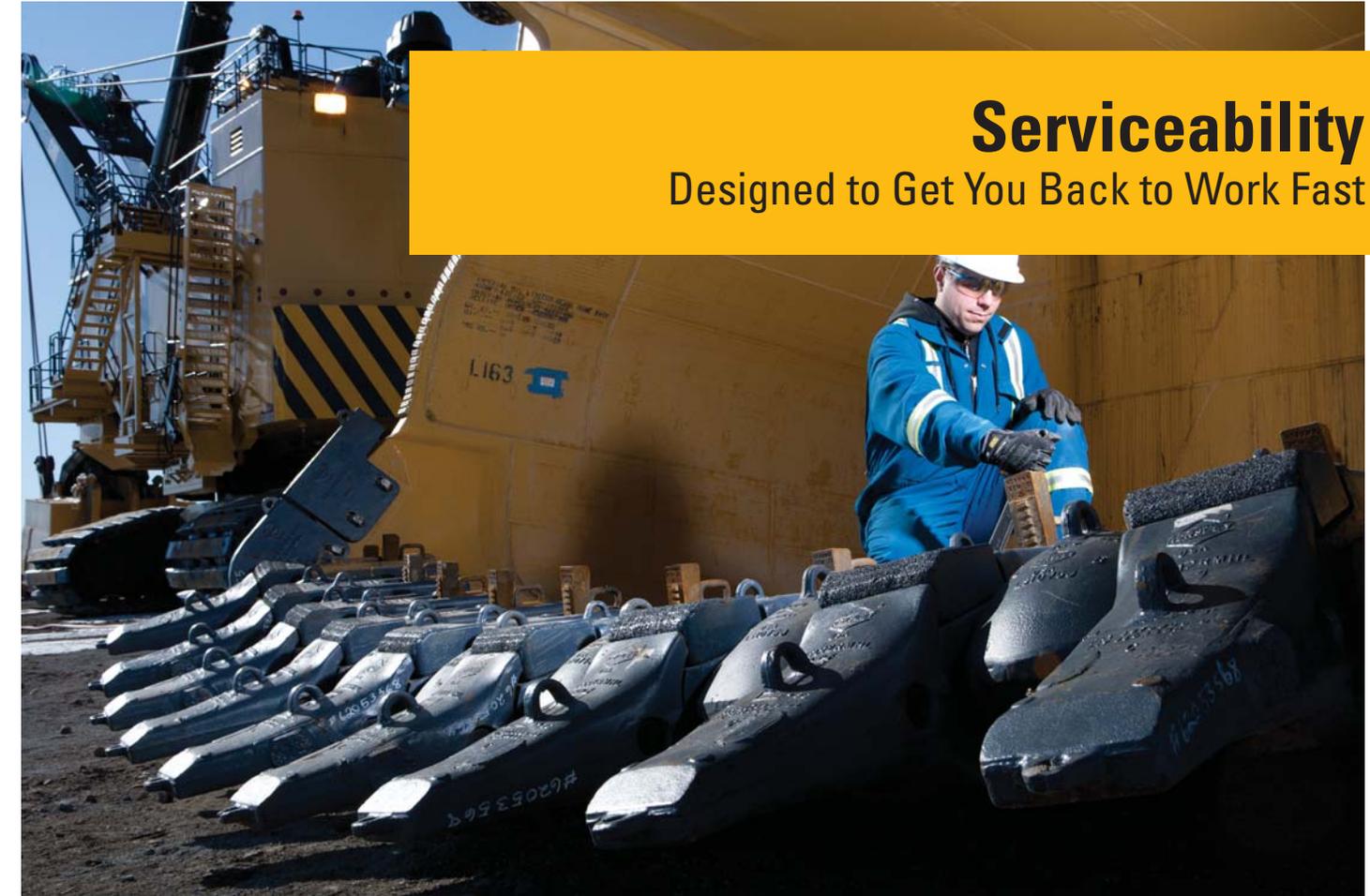
Stored Energy Warning Signs

- Stored energy locations are clearly marked with signs warning personnel of danger

Maintenance

- Reduced number of maintenance events afforded by HydraCrowd and the LatchFree Dipper System
- Easier maintenance and reduced fall hazard with deck-mounted front-end machinery





Serviceability

Designed to Get You Back to Work Fast

Lowering your operating costs and maximizing your rope shovel's uptime and productivity is of supreme importance to us. To that end, we continually strive to automate maintenance procedures, extend maintenance intervals, and simplify maintenance activities for our electric rope shovels.

Automated Maintenance Procedures

- Automatic lubrication system covers all regular lube points
- HydraCrowd system self-monitors pressure, contamination, and pump condition

Extended Maintenance Intervals

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

Simplified Maintenance Activities

- Walkways provided for major service points
- Platforms provided for gear inspection
- Factory installed ladders inside boom for easy access
- White painted interiors in major structures to facilitate crack inspections
- Easy-to-remove roof hatches offer access to machinery house components
- Electro-hydraulic crowd rope take-up system simplifies crowd rope tightening
- On board accessible diagnostic system identifies faults and gives instructions to resolve issues
- Third-rail swing system offers access to center rollers without jacking up the shovel's upper works
- Lock out tag out points for safer maintenance

Customer Support

Stay Up and Running with Service and Support from Our Unmatched Global Network





Commitment Makes the Difference

Cat dealers offer a wide range of solutions, services and products that help you lower costs, enhance productivity and manage your operation more efficiently. From the time you select a piece of Cat equipment until the day you trade or sell it, the support you get from your Cat dealer makes the difference.

Dealer Capability

Cat dealers provide the level of support you need, on a global scale. Dealer expert technicians have the knowledge, experience, training and tooling necessary to handle your repair and maintenance needs, when and where you need them.

Service Support

Every piece of Cat equipment is designed and built to provide maximum productivity and operating economy throughout its working life. Your Cat dealer is a valued partner, available whenever you need them.

- Cat Rebuild and Remanufactured options.
- Best-in-class product expertise.
- Improve your efficiency with operator training.



Operator Training

Maximize Your Investment

Aimed at advancing a novice operator to expert levels in a rapid time frame, our combination of on-site and computer-based training provides all the tools your staff will need.

To help maximize your investment in a Cat electric rope shovel, we provide on-site operator training assessments, on-site electrical and mechanical maintenance training, and a variety of computer-based training options.

Customized Training

- On-site and/or classroom training for rope shovel operators and mine operation supervisors
- Aimed at developing internal training competency for your operation
- Designed in module form to target key production issues specific to your operation
- Trainers have years of experience with hands-on and classroom training, offering the necessary skills to implement changes on all aspects of operation, machine management, and maintenance
- Utilizes cutting-edge technologies to improve knowledge retention, increase training efficiency, and create a safer learning environment via machine simulation

VAST (Value-Added Simulation Training)

- Exclusive Cat electric rope shovel simulator which replicates machine controls, responses and typical sensors found in mining operations
- Minimizes interruptions in mine productivity due to operator training while reducing shovel damage, repair costs and overall training costs
- Tracks and evaluates user progress
- Available in English, Spanish and French

Meeting the needs of today without compromising the needs of tomorrow is the goal for all Cat machinery. The commitment to helping you operate safely and sustainably is affirmed in the production of the 7495 HF rope shovel.

Cat Rope Shovel Sustainability

Electric Power

More efficient than diesel powered machines, Cat electric rope shovels are entirely electric and therefore experience less heat loss.

Regenerative Power

Cat electric rope shovels use regenerative braking technology to convert kinetic energy from shovel motions into electrical energy when braking. The electrical energy that is generated is then fed back to the grid. Without regenerative braking, the kinetic energy would be burned off as heat.

Long Life Cycles

Fewer component change-outs result in less waste. Component change-out intervals for electric rope shovels are generally longer than those for similar-sized hydraulic machines.

Rebuilds

Saving you money and reducing waste in the environment, electric rope shovel motors and gearcases can be rebuilt.



Sustainability
Higher Standards for a Better Tomorrow

7495 HF Electric Rope Shovel 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 m³ 40-82 yd³

- Dependent on application and material density

Weights* – with HydraCrowd

Working weight, with dipper and standard links 1 435 156 kg 3,164,000 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 45 m³ (59 yd³) dipper and standard 317.5 cm (125 in) treads

Main Structures – with HydraCrowd

Upper works overall width (including standard walkways) 12.8 m 41 ft 11 in

Crawler Dimensions

Overall width 317.5 cm (125 in) treads 12.7 m 41 ft 9 in

Ground Bearing Pressure

Total effective bearing area 317.5 cm (125 in) treads 57 m² 248 kPa 614 ft² 36 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 fast fill 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	83 mm (3.25 in)
Dipper trip	1	19 mm (0.75 in)

- High impact ropes available as an option

Crowd

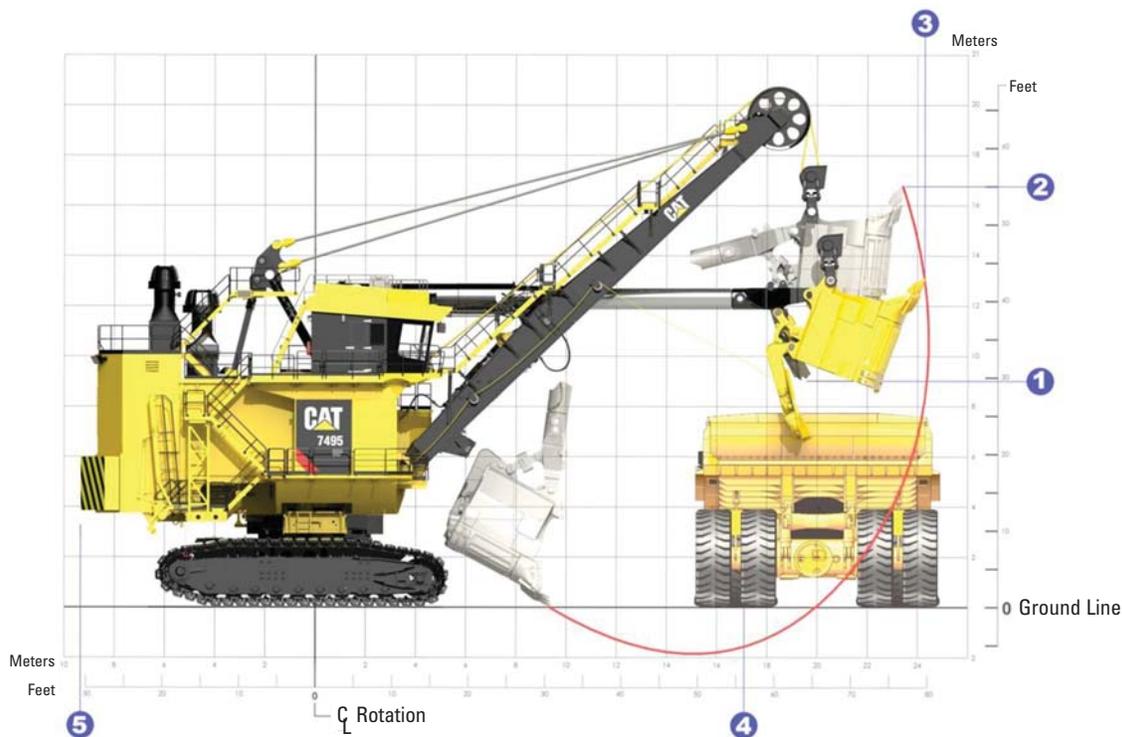
HydraCrowd, hydraulic power skid, located at the front center of the revolving frame deck, powers a large hydraulic cylinder to move the dipper handle fore and aft.

(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.

7495 HF Electric Rope Shovel Specifications

Dimensions – with HydraCrowd

All dimensions are approximate.



Optimal Working Ranges*

1 Dumping height – with clearance to open dipper door	9.0 m	29 ft 8 in
2 Cutting height (maximum)	16.8 m	55 ft 0 in
3 Cutting radius (maximum)	24.3 m	79 ft 8 in
4 Radius of level floor	17.0 m	55 ft 11 in
5 Revolving frame tail swing radius	9.3 m	30 ft 8 in

Optimal working ranges based on loading a Cat 797F truck.

*All specifications are based on a 45 m³ (59 yd³) dipper and standard 317.5 cm (125 in) treads.

7495 HF Electric Rope Shovel Specifications

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 m³ 40-82 yd³

- Dependent on application and material density

Weights* – with Rope Crowd

Working weight, with dipper and standard links 1 431 064 kg 3,155,000 lb

Ballast (furnished by customer) 302 614 kg 667,150 lb

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Main Structures – with Rope Crowd

Upper works overall width (including standard walkways) 12.8 m 41 ft 11 in

Crawler Dimensions

Overall width 317.5 cm (125 in) treads 12.7 m 41 ft 9 in

Ground Bearing Pressure

Total effective bearing area 317.5 cm (125 in) treads 57 m² 247 kPa 614 ft² 36 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 Rope Crowd

- 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 fast fill 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	83 mm (3.25 in)
Dipper trip	1	19 mm (0.75 in)

- High impact ropes available as an option

Crowd

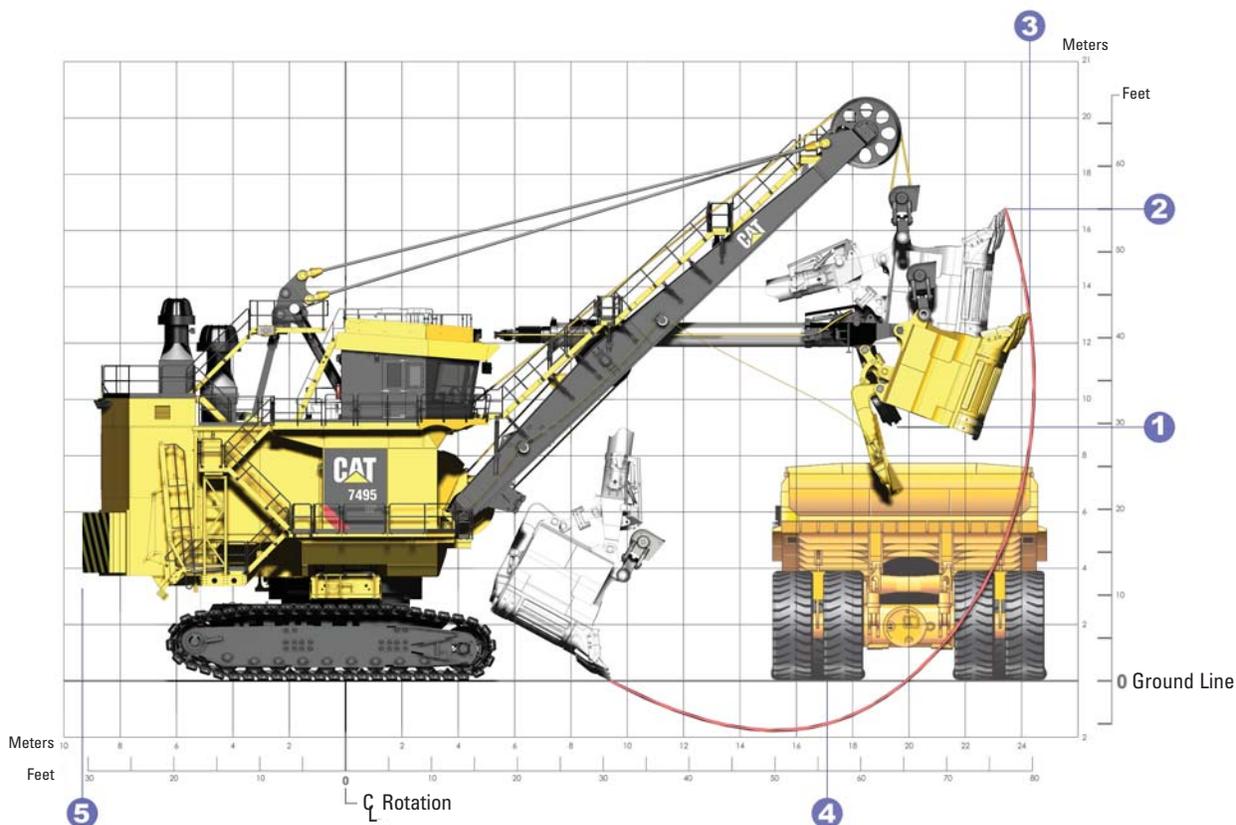
Rope Crowd with crowd machinery located at the front center of the revolving frame, consisting of motor, brake, drum and gearing. Plastic-impregnated crowd and retract ropes are used to move the dipper handle fore and aft.

(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.

7495 HF Electric Rope Shovel Specifications

Dimensions – with Rope Crowd

All dimensions are approximate.



Optimal Working Ranges*

1 Dumping height – with clearance to open dipper door	9.0 m	29 ft 8 in
2 Cutting height (maximum)	16.8 m	55 ft 0 in
3 Cutting radius (maximum)	24.3 m	79 ft 8 in
4 Radius of level floor	17.0 m	55 ft 11 in
5 Revolving frame tail swing radius	9.3 m	30 ft 8 in

Optimal working ranges based on loading a Cat 797F truck.

*All specifications are based on a 45 m³ (59 yd³) dipper and standard 317.5 cm (125 in) treads.

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