



# Cat<sup>®</sup> 7495 HD

## ELECTRIC ROPE SHOVEL

### Specifications

#### Dimensions

Dipper payload	81.8 tonnes	90 tons
Dipper capacity	19.1-61.2 m <sup>3</sup>	25-80 yd <sup>3</sup>
Length of boom	20.4 m	67 ft 0 in
Effective length of dipper handle	10.9 m	35 ft 10 in
Overall length of dipper handle	14.3 m	47 ft 0 in

#### Weights

Working weight, with dipper and standard links	1 306 346 kg	2,880,000 lb
Net weight, domestic, without ballast or dipper	972 502 kg	2,144,000 lb
General purpose dipper 49.78 m <sup>3</sup> (65 yd <sup>3</sup> )	73 482 kg	162,000 lb
Ballast (furnished by customer)	260 362 kg	574,000 lb

- These weights will vary slightly depending upon dipper and optional equipment selection.

#### Main Structures

##### Crawler Mounting

Overall width 213.36 cm (84 in) treads, standard	9.98 m	32 ft 9 in
Overall length of mounting	10.41 m	34 ft 2 in
Overall width 274.32 cm (108 in) treads	10.44 m	34 ft 3 in
Total effective bearing area (213.36 cm/84 in treads)	32.0 m <sup>2</sup>	344 ft <sup>2</sup>
	401 kPa	58.1 psi
Total effective bearing area (274.32 cm/108 in treads)	41 m <sup>2</sup>	442.3 ft <sup>2</sup>
	311 kPa	45.2 psi
Number and diameter of rollers		
Lower (8)	139.70 cm	55 in
Upper (10)	60.96 cm	24 in
Take-up tumblers diameter	157.48 cm	62 in
Number and pitch of treads (74)	61.91 cm	24.375 in

##### Planetary Propel

- Dual-motor independent drive.

##### Revolving Frame (Center Section)

Welded, impact-resistant steel		
Length	8.38 m	27 ft 6 in
Width	4.29 m	14 ft 1 in

#### Main Structures (cont'd)

##### Turntable

Forged rim, alloy steel swing rack pitch diameter	5.18 m	17 ft 0 in
Teeth external cut (face)	24.13 cm	9.5 in
Tapered, forged alloy steel roller rails diameter	4.5 m	14 ft 9 in
Number of tapered rollers	56	
Tapered rollers diameter	20.96 cm	8.25 in

##### Swing

- Two planetary gearboxes, each driven by a vertically mounted motor, are mounted 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

- Single-line system applies lubricant and grease via the PLC.
- 6 pumps (4 for lubricant and 2 for grease) located in an insulated, double-walled lube room.

#### Electrical

##### Drive

- IGBT Acutrol drive system.

##### Power Requirements

Voltage	3 phase, 50/60 Hz, 7,200V
Average 15-minute demand	832-1165 kW
Peak power	3330 kW

- Other voltage options available to suit customer requirements.

##### Distribution System Requirements

Machine on separate system	3500 kVA
Machine on large system	2000 kVA

##### Main Electrical Systems

System voltage (nominal)	50/60 Hz, 7,200V
Trail cable (furnished by customer)	SHD-3-#1/0 at 8,000V
Transformer, auxiliary	350 kVA, 7,200V primary
Lighting transformer	25 kVA, 120/240V secondary

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## Lights

- HPS lights on boom feet, top of A-frame, machinery house, lube room, control room, utility room and flood lights.
- Incandescent lights on ground lights, walkways and operator's cab.

## Front End

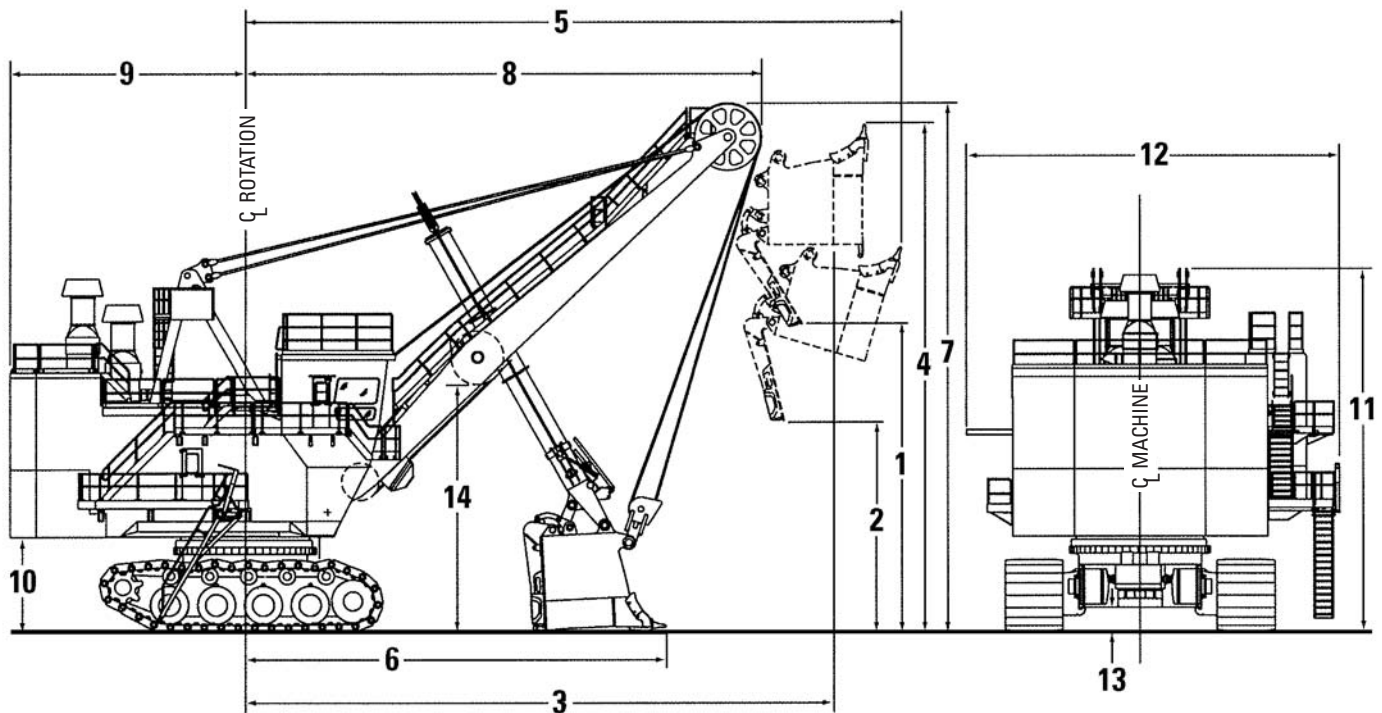
### Boom

Boom	welded, impact-resistant steel	
Boom point sheaves	twin-grooved, flame-hardened	
Boom point sheave diameters	243.84 cm	96 in
Handle diameter	86.36 cm	34 in
Wall thickness (nominal)	7.62 cm	3 in

## Front End (cont'd)

### Rope Data

	No.	Diameter	Type	Construction
Hoist	2	69.8 mm (2.75 in)	twin dual	8 × 37
Crowd	1	63.5 mm (2.5 in)	single dual	8 × 37
Retract	1	63.5 mm (2.5 in)	single dual	8 × 37
Boom susp.	4	82.6 mm (3.25 in)	equalized	struct. strand
Dipper trip	1	15.9 mm (0.625 in)	single	7 × 25



## Optimal Working Ranges

1 Dumping height	10.6 m	34 ft 10 in	8 Clearance radius (boom point sheaves)	19.74 m	64 ft 9 in
2 Dumping height at maximum electric crowd limit	8.45 m	27 ft 9 in	9 Clearance radius (revolving frame)	8.67 m	28 ft 5 in
3 Dumping radius (maximum)	21.0 m	69 ft 0 in	10 Clearance under frame (to ground)	3.45 m	11 ft 4 in
4 Cutting height (maximum)	17.3 m	56 ft 10 in	11 Height of A-frame	13.3 m	43 ft 8 in
5 Cutting radius (maximum)	23.97 m	78 ft 8 in	12 Overall width	13.01 m	42 ft 8 in
6 Radius of level floor	16.92 m	55 ft 6 in	13 Clearance under lowest point in truck frame/propel gearcase	0.86 m	34 in
7 Clearance height (boom point sheaves)	20.1 m	65 ft 10 in	14 Operator's eye level	8.64 m	28 ft 4 in

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