



# Cat<sup>®</sup> 7495 with Rope Crowd

## ELECTRIC ROPE SHOVEL

### Specifications

#### Dimensions

Dipper payload (Available dipper payloads up to 109 tonnes [120 tons] when specified)	100 tonnes	110 tons
Dipper capacity	30.6-61.2 m <sup>3</sup>	40-80 yd <sup>3</sup>
Length of boom	20.4 m	67 ft
Effective length of dipper handle	10.9 m	35 ft 10 in
Overall length of dipper handle	14.3 m	47 ft

#### Weights

Working weight, with dipper and standard links	1 369 246 kg	3,018,670 lb
Net weight, domestic, without ballast or dipper	988 100 kg	2,173,820 lb
General purpose dipper 56 m <sup>3</sup> (73 yd <sup>3</sup> )	80 603 kg	177,700 lb
Ballast (furnished by customer)	302 614 kg	667,150 lb

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

#### Main Structures

##### Crawler Mounting

Overall width 200.7 cm (79 in) treads, standard	11 m	36 ft
Overall length of mounting	11.43 m	37 ft 6 in
Overall width 259.1 cm (102 in) treads	13.5 m	44 ft 3 in
Total effective bearing area (200.7 cm/79 in treads)	36.1 m <sup>2</sup>	388.6 ft <sup>2</sup>
	372 kPa	53.9 psi
Total effective bearing area (259.1 cm/102 in treads)	46.6 m <sup>2</sup>	501.7 ft <sup>2</sup>
	288 kPa	41.8 psi
Number and diameter of rollers		
Lower (16)	78 cm	30.7 in
Lower rear (2)	106.7 cm	42 in
Upper	Slides	
Take-up tumblers diameter	162 cm	63.8 in
Number and pitch of treads (94)	50.8 cm	20 in

##### Planetary Propel

- Dual-motor independent drive.

##### Revolving Frame (Center Section)

Welded, impact-resistant steel		
Length	8.38 m	27 ft 6 in
Width	3.68 m	12 ft 1 in

#### Main Structures (cont'd)

##### Turntable

Forged rim, alloy steel swing rack pitch diameter	5.26 m	17 ft 3 in
Teeth external cut (face)	24.13 cm	9.5 in
Tapered, forged alloy steel roller rails diameter	4.52 m	14 ft 10 in
Number of tapered rollers	50	
Tapered rollers diameter	27.31 cm	10.75 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	926-1297 kW
Peak power	3706 kW

- Other voltage options available to suit customer requirements.

##### Distribution System Requirements

Machine on separate system	4000 kVA
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##### 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, and utility room.
- Incandescent lights for ground lights and on walkways.

## 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

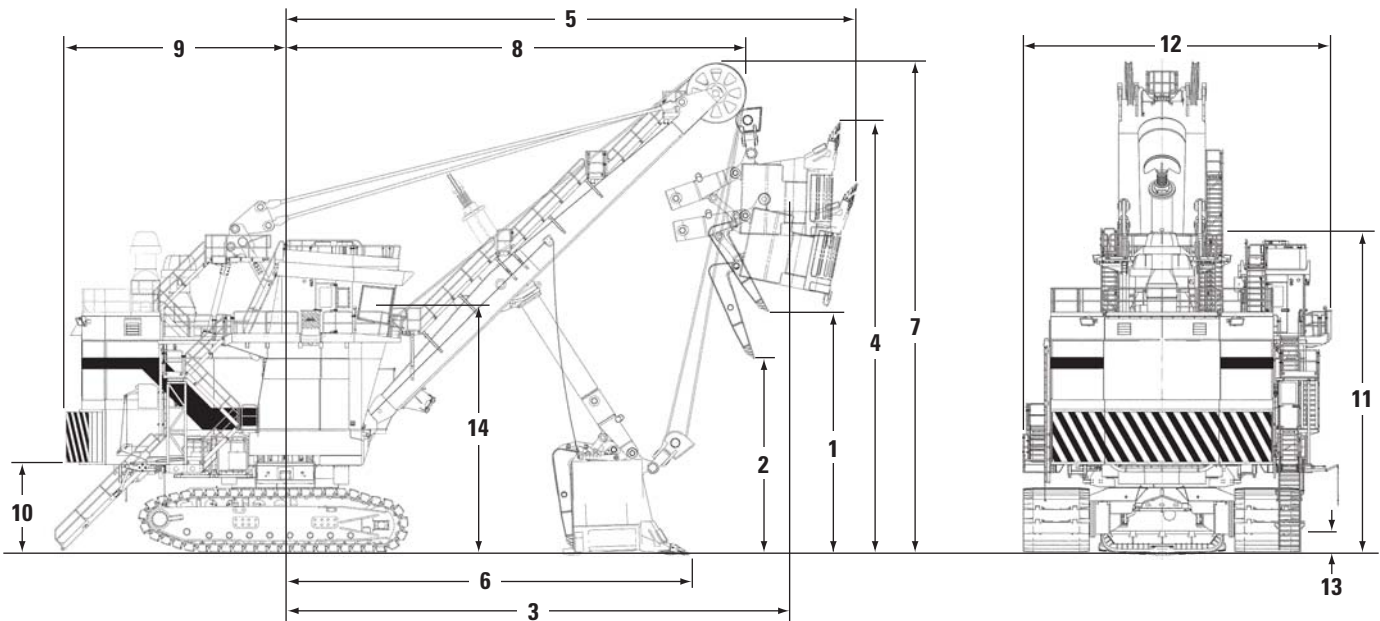
## Front End (cont'd)

### 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	19.1 mm (0.75 in)	single	7 × 25

### 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-coated crowd and retract ropes are used to move the dipper handle fore and aft.



## Optimal Working Ranges

<b>1</b> Dumping height	10.06 m	33 ft 0 in	<b>8</b> Clearance radius (boom point sheaves)	19.65 m	64 ft 5 in
<b>2</b> Dumping height at maximum electric crowd limit	8.61 m	28 ft 3 in	<b>9</b> Clearance radius (revolving frame) (max.)	9.34 m	30 ft 8 in
<b>3</b> Dumping radius (maximum)	21.64 m	71 ft 0 in	<b>10</b> Clearance under frame (to ground)	3.76 m	12 ft 4 in
<b>4</b> Cutting height (maximum)	17.8 m	58 ft 5 in	<b>11</b> Height of A-frame	14 m	46 ft 0 in
<b>5</b> Cutting radius (maximum)	25.2 m	82 ft 8 in	<b>12</b> Overall width	13.11 m	43 ft 0 in
<b>6</b> Radius of level floor	17.47 m	57 ft 4 in	<b>13</b> Clearance under lowest point in truck frame/propel gearcase	0.90 m	2 ft 11.5 in
<b>7</b> Clearance height (boom point sheaves)	20.87 m	68 ft 6 in	<b>14</b> Operator's eye level	10.61 m	34 ft 10 in

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