



# AD63

Underground Articulated Truck

## Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

### Table of Contents

|  |          |
|--|----------|
| <b>Specifications</b> .....                  | <b>2</b> |
| Engine .....                                 | 2        |
| Operating Specifications .....               | 2        |
| Weights .....                                | 2        |
| Weight Distribution .....                    | 2        |
| Transmission .....                           | 2        |
| Final Drives .....                           | 2        |
| Body Hoist .....                             | 2        |
| Body Capacities .....                        | 3        |
| Turning Dimensions .....                     | 3        |
| Service Refill Capacities .....              | 3        |
| Tires .....                                  | 3        |
| Standards .....                              | 3        |
| Dimensions .....                             | 4        |
| Gradeability/Speed/Rimpull .....             | 6        |
| <b>Standard and Optional Equipment</b> ..... | <b>7</b> |

# AD63 Underground Articulated Truck Specifications

## Engine

|                               |          |                       |
|-------------------------------|----------|-----------------------|
| Engine Model                  | Cat® C27 |                       |
| Engine Power – ISO 14396:2002 | 593 kW   | 795 hp                |
| Bore                          | 137.2 mm | 5.4 in                |
| Stroke                        | 152.4 mm | 6 in                  |
| Displacement                  | 27 L     | 1,650 in <sup>3</sup> |

- Meets EU Stage V emission standards and U.S. EPA Tier 4 Final.
- Power ratings apply at a rated speed of 1,800 rpm when tested under the reference conditions for the specified standard.
- All rating conditions are based on ISO/TR14396, inlet air standard conditions with a total barometric pressure of 100 kPa (29.5 in Hg), with a vapor pressure of 1 kPa (0.295 in Hg), and 25° C (77° F). Performance measured using fuel to EPA specifications in 40 CFR Part 1065 and EU specifications in Directive 97/68/EC with a density of 0.845-0.850 kg/L @ 15° C (59° F) and fuel inlet temperature 40° C (104° F).

## Operating Specifications

|                              |            |            |
|------------------------------|------------|------------|
| Nominal Payload Capacity     | 63 000 kg  | 138,891 lb |
| Gross Machine Operating Mass | 118 940 kg | 262,218 lb |

## Weights

|            |            |            |
|------------|------------|------------|
| Empty      | 52 425 kg  | 115,577 lb |
| Front Axle | 37 066 kg  | 81,716 lb  |
| Rear Axle  | 15 359 kg  | 33,861 lb  |
| Loaded     | 115 425 kg | 254,468 lb |
| Front Axle | 57 456 kg  | 126,669 lb |
| Rear Axle  | 57 969 kg  | 127,800 lb |

## Weight Distribution

|            |       |  |
|------------|-------|--|
| Empty      |       |  |
| Front Axle | 70.7% |  |
| Rear Axle  | 29.3% |  |
| Loaded     |       |  |
| Front Axle | 49.8% |  |
| Rear Axle  | 50.2% |  |

## Transmission

|           |           |          |
|-----------|-----------|----------|
| Forward 1 | 6.5 km/h  | 4.1 mph  |
| Forward 2 | 9.2 km/h  | 5.7 mph  |
| Forward 3 | 12.4 km/h | 7.7 mph  |
| Forward 4 | 16.6 km/h | 10.3 mph |
| Forward 5 | 22.5 km/h | 14.0 mph |
| Forward 6 | 30.3 km/h | 18.9 mph |
| Forward 7 | 41.0 km/h | 25.5 mph |
| Reverse 1 | 8.6 km/h  | 5.3 mph  |

- Maximum travel speeds with standard 35 × 65 R33 tires.

## Final Drives

|                       |         |
|-----------------------|---------|
| Differential Ratio    | 3.46:1  |
| Final Drive Ratio     | 5.5:1   |
| Total Reduction Ratio | 19.04:1 |

## Body Hoist

|                  |            |
|------------------|------------|
| Raise            | 13 Seconds |
| Lower            | 24 Seconds |
| Total Cycle Time | 37 Seconds |

# AD63 Underground Articulated Truck Specifications

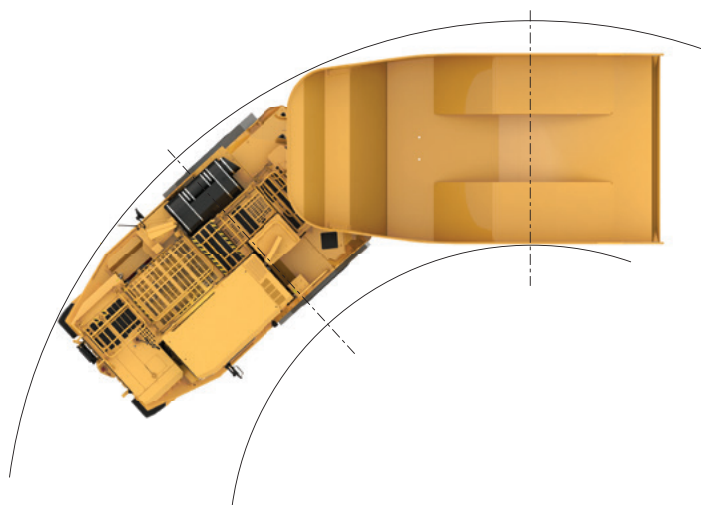
## Body Capacities

|                                |                     |                      |
|--------------------------------|---------------------|----------------------|
| Dump Body – 1 (Standard)       | 26.9 m <sup>3</sup> | 35.2 yd <sup>3</sup> |
| Dump Body – 2                  | 32.6 m <sup>3</sup> | 42.6 yd <sup>3</sup> |
| Dump Body – 3                  | 33.8 m <sup>3</sup> | 44.2 yd <sup>3</sup> |
| Dump Body – 4                  | 36.6 m <sup>3</sup> | 47.9 yd <sup>3</sup> |
| Dump Body – 5 (Light Material) | 38.3 m <sup>3</sup> | 50.1 yd <sup>3</sup> |

- Heaped SAE 2:1.

## Turning Dimensions

|                          |           |          |
|--------------------------|-----------|----------|
| Outside Clearance Radius | 10 005 mm | 393.9 in |
| Inside Turning Radius    | 5540 mm   | 218.1 in |
| Frame Oscillation        | 10°       |          |
| Articulation Angle       | 42.5°     |          |



## Service Refill Capacities

|                                      |       |           |
|--------------------------------------|-------|-----------|
| Engine Crankcase with Filter         | 95 L  | 25.0 gal  |
| Transmission                         | 53 L  | 14.0 gal  |
| Hydraulic Tank                       | 381 L | 100.6 gal |
| Cooling System                       | 150 L | 39.6 gal  |
| Front Differentials and Final Drives | 138 L | 36.5 gal  |
| Rear Differentials and Final Drives  | 138 L | 36.5 gal  |
| Fuel Tank                            | 900 L | 237.7 gal |

## Tires

|           |             |
|-----------|-------------|
| Tire Size | 35 × 65 R33 |
|-----------|-------------|

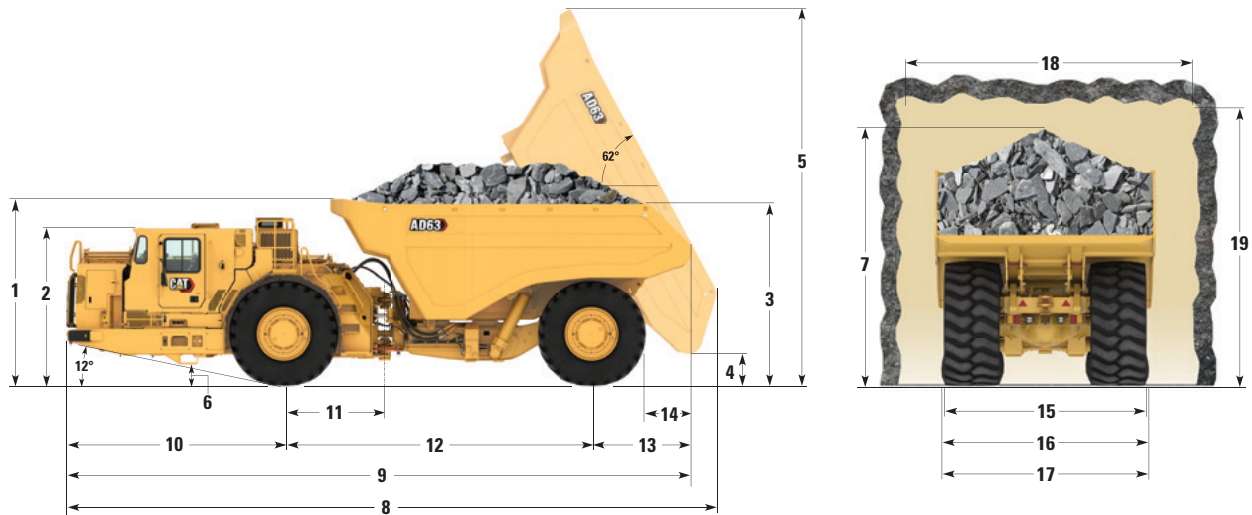
## Standards

Rollover Protective Structure (ROPS)/Falling Object Protective Structure (FOPS) Certified Cab

# AD63 Underground Articulated Truck Specifications

## Dimensions

All dimensions are approximate.



| Body Capacity                                 | 311-4730<br>Dump Body |                 | 312-1395<br>Dump Body |                 | 307-6655<br>Dump Body |                 | 311-4721<br>Dump Body |                 |
|---|-----------------------|-----------------|-----------------------|-----------------|-----------------------|-----------------|-----------------------|-----------------|
|   | m <sup>3</sup>        | yd <sup>3</sup> | m <sup>3</sup>        | yd <sup>3</sup> | m <sup>3</sup>        | yd <sup>3</sup> | m <sup>3</sup>        | yd <sup>3</sup> |
|   | mm                    | in              | mm                    | in              | mm                    | in              | mm                    | in              |
| <b>1</b> Height – Top of Empty Body           | 3202                  | 126             | 3418                  | 135             | 3556                  | 140.0           | 3552                  | 140             |
| <b>2</b> Height – Top of ROPS                 | 3000                  | 118             | 3000                  | 118             | 3000                  | 118             | 3000                  | 118             |
| <b>3</b> Height – Body Loading                | 3045                  | 120             | 3326                  | 131             | 3426                  | 135             | 3473                  | 137             |
| <b>4</b> Height – Dump Clearance**            | 514                   | 20              | 514                   | 20              | 514                   | 20              | 514                   | 20              |
| <b>5</b> Height – Top of Raised Body          | 6969                  | 274             | 7202                  | 284             | 7322                  | 288             | 7176                  | 283             |
| <b>6</b> Height – Ground Clearance            | 393                   | 15              | 393                   | 15              | 393                   | 15              | 393                   | 15              |
| <b>7</b> Height – Top of Load (SAE 2:1)       | 3830                  | 151             | 4160                  | 164             | 4160                  | 164             | 4300                  | 169             |
| <b>8</b> Length – Maximum Body Raised         | 12 064                | 475             | 12 180                | 480             | 12 222                | 481             | 12 241                | 482             |
| <b>9</b> Length – Overall Body Down           | 12 040                | 474             | 12 040                | 474             | 12 040                | 474             | 12 040                | 474             |
| <b>10</b> Length – Front Axle to Front Bumper | 4164                  | 164             | 4164                  | 164             | 4164                  | 164             | 4164                  | 164             |
| <b>11</b> Length – Front Axle to Hitch        | 1920                  | 76              | 1920                  | 76              | 1920                  | 76              | 1920                  | 76              |
| <b>12</b> Length – Wheel Base                 | 5900                  | 232             | 5900                  | 232             | 5900                  | 232             | 5900                  | 232             |
| <b>13</b> Length – Rear Axle to Tail          | 1976                  | 78              | 1976                  | 78              | 1976                  | 78              | 1976                  | 78              |
| <b>14</b> Length – Rear Wheel to Raised Body  | 857                   | 34              | 857                   | 34              | 857                   | 34              | 857                   | 34              |
| <b>15</b> Width – Overall Tire                | 3250                  | 128             | 3250                  | 128             | 3250                  | 128             | 3250                  | 128             |
| <b>16</b> Width – Machine with Body           | 3346                  | 132             | 3480                  | 137             | 3480                  | 137             | 3480                  | 137             |
| <b>17</b> Width – Machine without Body        | 3323                  | 131             | 3323                  | 131             | 3323                  | 131             | 3323                  | 131             |
| <b>18</b> Recommended Clearance Width*        | 5000                  | 197             | 5000                  | 197             | 5000                  | 197             | 5000                  | 197             |
| <b>19</b> Recommended Clearance Height*       | 5000                  | 197             | 5000                  | 197             | 5000                  | 197             | 5000                  | 197             |

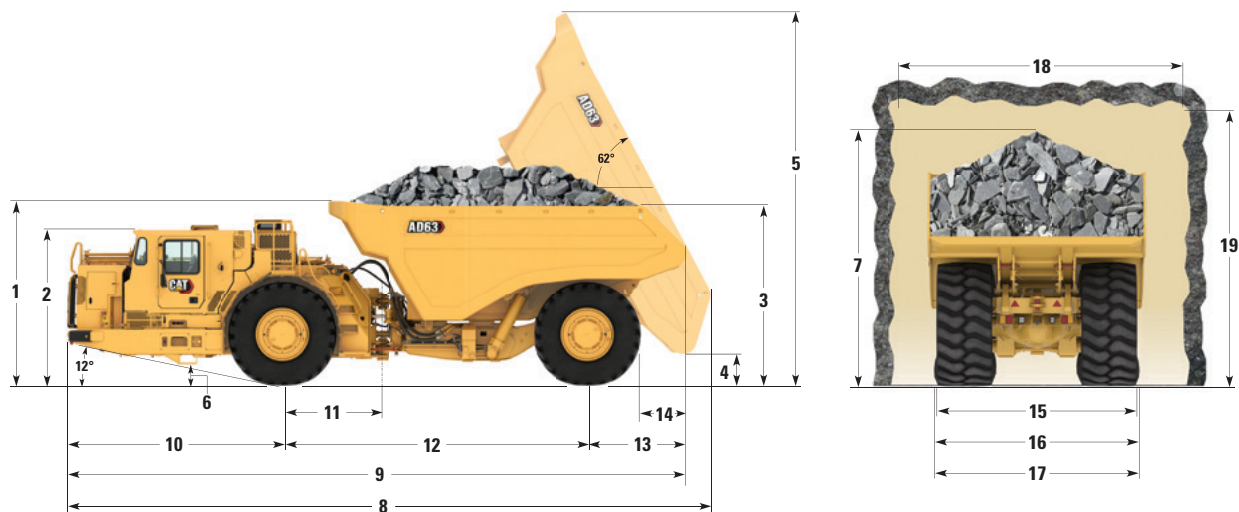
\*Clearance dimensions are for reference only.

\*\*Measurement taken with tailgate down for ejector body.

# AD63 Underground Articulated Truck Specifications

## Dimensions

All dimensions are approximate.



529-7938

Dump Body  
Light Material

| Body Capacity                          | 38.3 m <sup>3</sup> | 50.1 yd <sup>3</sup> |
|--|---------------------|----------------------|
|  | mm                  | in                   |
| 1 Height – Top of Empty Body           | 3560                | 140                  |
| 2 Height – Top of ROPS                 | 3000                | 118                  |
| 3 Height – Body Loading                | 3473                | 137                  |
| 4 Height – Dump Clearance**            | 598                 | 24                   |
| 5 Height – Top of Raised Body          | 7200                | 283                  |
| 6 Height – Ground Clearance            | 393                 | 15                   |
| 7 Height – Top of Load (SAE 2:1)       | 4330                | 170                  |
| 8 Length – Maximum Body Raised         | 12 430              | 489                  |
| 9 Length – Overall Body Down           | 11 960              | 471                  |
| 10 Length – Front Axle to Front Bumper | 4164                | 164                  |
| 11 Length – Front Axle to Hitch        | 1920                | 76                   |
| 12 Length – Wheel Base                 | 5900                | 232                  |
| 13 Length – Rear Axle to Tail          | 1896                | 75                   |
| 14 Length – Rear Wheel to Raised Body  | 77                  | 31                   |
| 15 Width – Overall Tire                | 3250                | 128                  |
| 16 Width – Machine with Body           | 3500                | 138                  |
| 17 Width – Machine without Body        | 3323                | 131                  |
| 18 Recommended Clearance Width*        | 5000                | 197                  |
| 19 Recommended Clearance Height*       | 5000                | 197                  |

\*Clearance dimensions are for reference only.

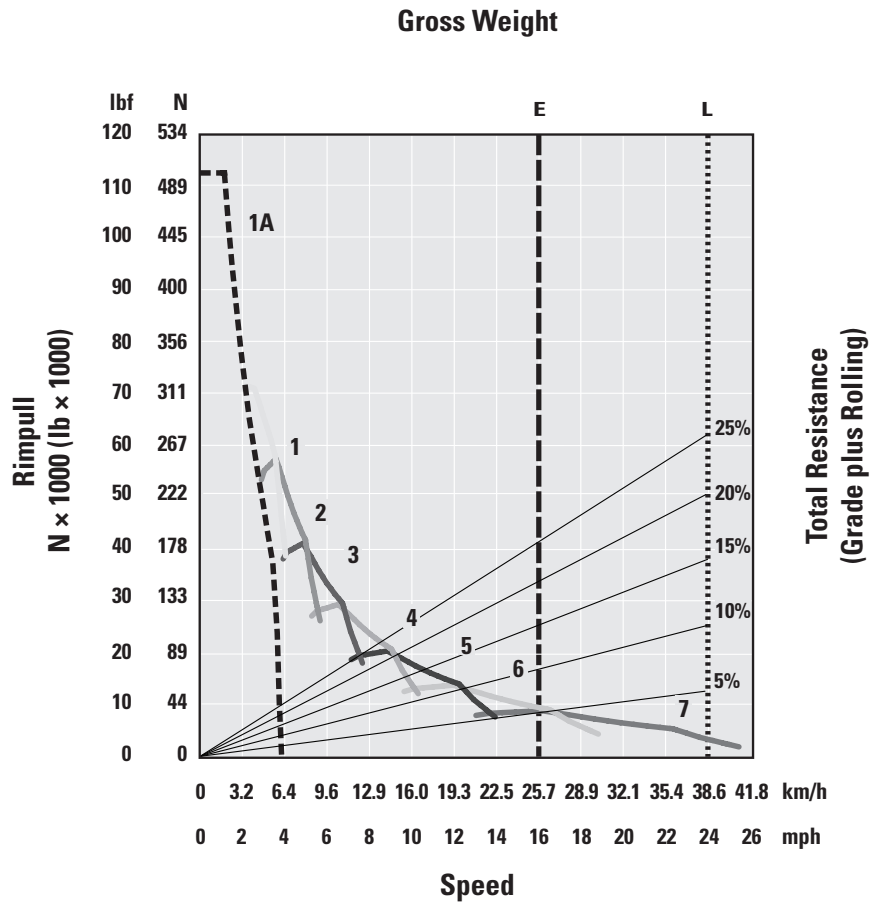
\*\*Measurement taken with tailgate down for ejector body.

# AD63 Underground Articulated Truck Specifications

## Gradeability/Speed/Rimpull

To determine gradeability performance: Read from gross weight down to the percent of total resistance. Total resistance equals actual percent grade plus rolling resistance as a general guide use two percent for rolling resistance in underground application or refer to the Caterpillar Performance Handbook. From the total resistance point, read horizontally to the curve with the highest obtainable gear, then down to maximum speed. Usable rimpull will depend upon traction available and weight on drive wheels.

- Typical Field Empty Weight
- ..... Loaded Weight



- 1A – 1st Gear Torque Converter Drive
- 1 – 1st Gear Direct Drive
- 2 – 2nd Gear Direct Drive
- 3 – 3rd Gear Direct Drive
- 4 – 4th Gear Direct Drive
- 5 – 5th Gear Direct Drive
- 6 – 6th Gear Direct Drive
- 7 – 7th Gear Direct Drive

- E – Empty 52 425 kg (115,577 lb)
- L – Loaded 115 425 kg (254,469 lb)

## Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat dealer for details.

|   | Standard | Optional |  | Standard | Optional |
|---|----------|----------|--|----------|----------|
| <b>ELECTRICAL</b>   |          |          | <b>OPERATOR ENVIRONMENT (continued)</b>                    |          |          |
| Alarm, reversing  | ✓        |          | Turn signal indicators                                     | ✓        |          |
| Alternator, 225 amp   | ✓        |          | Windshield wiper and washer                                | ✓        |          |
| Disconnect switch, two post, ground level                                 | ✓        |          | TLV2 Cat Comfort Air Seat                                  | ✓        |          |
| Electric starting, 24-volt  | ✓        |          | Brake Pressure Gauges                                      |          | ✓        |
| Lights, LED:  |          |          | Seat Cover   |          | ✓        |
| – Headlights with dimmer switch   | ✓        |          | Camera, Color Rear Facing                                  |          | ✓        |
| – Lights, brake and tail  | ✓        |          | Window Dual Panel  |          | ✓        |
| – Lights, reversing, automatic when reverse gear selected                 | ✓        |          | Sun visor  |          | ✓        |
| – Work light, rear, cab mounted   | ✓        |          | <b>POWER TRAIN</b>   |          |          |
| – Light, LED, dump  |          | ✓        | Brake retarder control, automatic                          | ✓        |          |
| Receptacle GP, auxiliary start  | ✓        |          | Brakes:  |          |          |
| Product Link Elite – machine health information                           | ✓        |          | – All wheel disc   | ✓        |          |
| Shutdown switch, ground level   | ✓        |          | – Oil cooled   | ✓        |          |
| Battery Shutdown:   |          |          | – Parking brakes, four wheels                              | ✓        |          |
| – Ground Level Isolation, in Cab Isolation Switch                         |          | ✓        | Control throttle shifting                                  | ✓        |          |
| – Ground Level Isolation, Engine Shutdown Switch                          |          | ✓        | Cat C27 12 cylinder diesel engine                          | ✓        |          |
| – Ground Level Isolation, in Cab Isolation, Engine Shutdown Switch        |          | ✓        | – EU Stage V   | ✓        |          |
| <b>OPERATOR ENVIRONMENT</b>   |          |          | – Air-to-air aftercooler (ATAAC)                           | ✓        |          |
| Cab, enclosed:  |          |          | – Fuel priming aid   | ✓        |          |
| – ROPS/FOPS certified   | ✓        |          | Aftertreatment options                                     |          | ✓        |
| – Tilt (cab is able to tilt 43° for maintenance access)                   | ✓        |          | – DPF (flow through)                                       |          | ✓        |
| – HVAC, dual system   | ✓        |          | – DPF (wall flow)  |          | ✓        |
| Cab Pressurizer and Filter  | ✓        |          | Park Brake Switch Engagement – Push to Apply/Pull to Apply |          | ✓        |
| Cab Pressurizer and Filter (HEPA)   |          | ✓        | Transmission, automatic planetary power shift (7F/1R)      | ✓        |          |
| Caterpillar Electronic Monitoring System (CEMS), (dash instrument panels) | ✓        |          | – Gear blockout with tray up, programmable                 | ✓        |          |
| Operator Presence System  | ✓        |          | – Ground speed limiting, programmable                      | ✓        |          |
| Automatic Brake Application (ABA)   | ✓        |          | – Torque converter with automatic lockup                   | ✓        |          |
| Idle timer (programmable)   | ✓        |          | Four wheel drive   | ✓        |          |
| Light, residual brake pressure  | ✓        |          | Remote transmission cooler                                 | ✓        |          |
| Low hydraulic oil level alarm   | ✓        |          | Fast Fill System   |          |          |
| Low park brake pressure indicator   | ✓        |          | – Coolant  |          | ✓        |
| Mirrors, rearview   | ✓        |          | – Engine Oil   |          | ✓        |
| Radio ready   | ✓        |          | – Fuel (dual tanks)  |          | ✓        |
| Seat, trainer/passenger with seat belt                                    | ✓        |          | – Hydraulic Oil  |          | ✓        |
| Steering wheel, tilt/telescopic   | ✓        |          | – Transmission Oil   |          | ✓        |

(continued on next page)

# AD63 Standard and Optional Equipment

## Standard and Optional Equipment *(continued)*

Standard and optional equipment may vary. Consult your Cat dealer for details.

|   | Standard | Optional |   | Standard | Optional |
|---|----------|----------|---|----------|----------|
| <b>TIRES, RIMS, AND WHEELS</b>              |          |          | <b>OTHER EQUIPMENT <i>(continued)</i></b>   |          |          |
| Tires, 35/65 R33 VSNT Bridgestone           | ✓        |          | Hydraulic Burst Protection  | ✓        |          |
| Rims (set of four)                          | ✓        |          | Dump body – 26.9 m <sup>3</sup> (35.2 yd <sup>3</sup> )   | ✓        |          |
| Rim Identification Numbering                |          | ✓        | Dump body – 32.6 m <sup>3</sup> (42.6 yd <sup>3</sup> )/<br>33.8 m <sup>3</sup> (44.2 yd <sup>3</sup> )/36.6 m <sup>3</sup> (47.9 yd <sup>3</sup> )/<br>38.3 m <sup>3</sup> (50.1 yd <sup>3</sup> ) |          | ✓        |
| Spare rim, tubeless                         |          | ✓        | Body Liners, impact and/or wear   |          | ✓        |
| <b>OTHER EQUIPMENT</b>                      |          |          | Body Wear Plate, external   |          | ✓        |
| Adapters, oil sample                        | ✓        |          | Body Wear Protection Option   |          | ✓        |
| Alarm, tray up                              | ✓        |          | Fluids – arctic fuel, arctic coolant  |          | ✓        |
| Ansul Fire Suppression,<br>Wet 76L (AS5062) |          | ✓        | Cover, anti vandalism for shipping  |          | ✓        |
| Axle suspension, front                      | ✓        |          | Lifting lugs, frame   | ✓        |          |
| Belly guards                                | ✓        |          | Lubrication System – automatic  |          | ✓        |
| Bumpers, front, rubber                      | ✓        |          | Reflective tapes  |          | ✓        |
| Cap, radiator, manual release               | ✓        |          | Service tools   |          | ✓        |
| Catalytic exhaust purifier/muffler          | ✓        |          | Truck Payload Measurement<br>System (TPMS), dump body only  |          | ✓        |
| Covers, exhaust                             | ✓        |          | Tow pin, front and rear   | ✓        |          |
| Handholds                                   | ✓        |          | Ventilated cover  | ✓        |          |
| Handrails, fold down                        | ✓        |          |   |          |          |
| Hitch, articulated and oscillated           | ✓        |          |   |          |          |

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at [www.cat.com](http://www.cat.com)

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(Global)

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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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