AD63

Underground Articulated Truck

Technical Specifications

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

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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^3

- 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

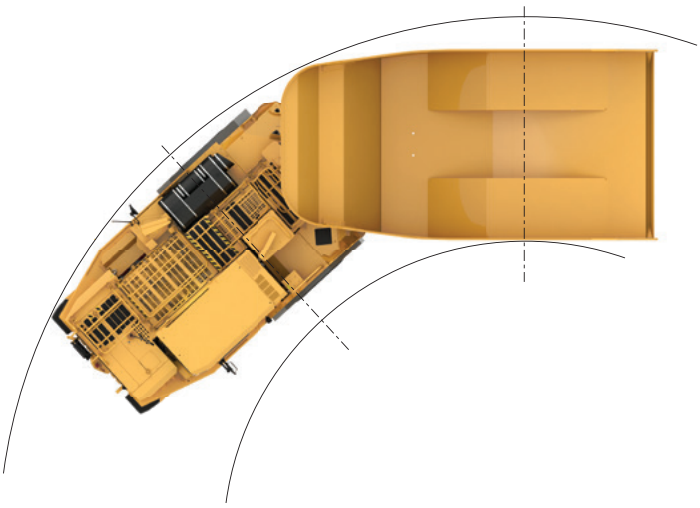
Body Capacities

Dump Body – 1 (Standard)	26.9 m^3	35.2 yd^3
Dump Body – 2	32.6 m^3	42.6 yd^3
Dump Body – 3	33.8 m^3	44.2 yd^3
Dump Body – 4	36.6 m^3	47.9 yd^3
Dump Body – 5 (Light Material)	38.3 m^3	50.1 yd^3

• 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

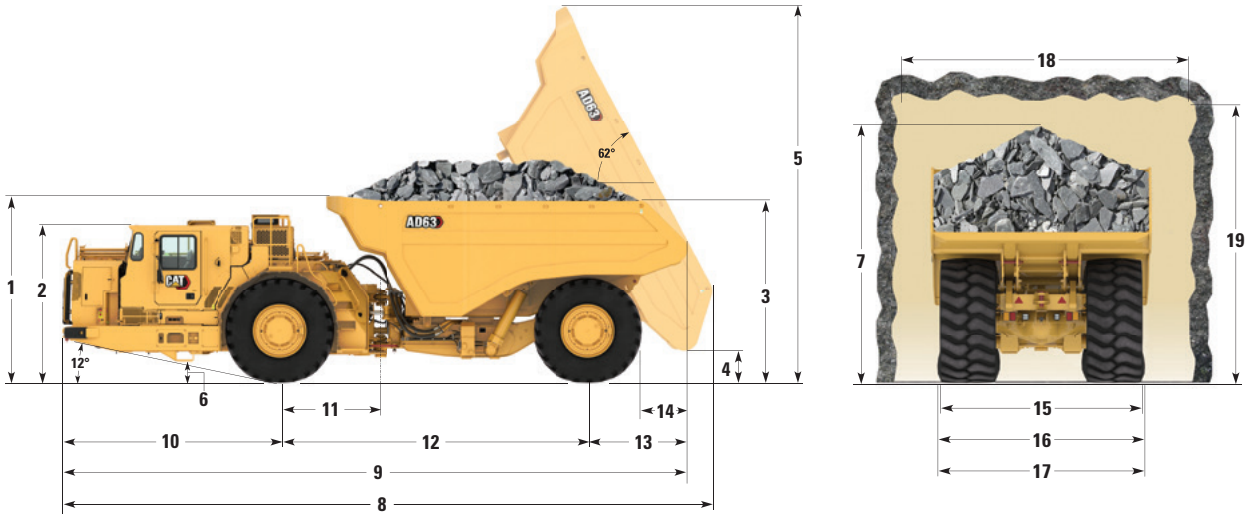
Standards

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

AD63 Underground Articulated Truck Specifications

Dimensions

All dimensions are approximate.



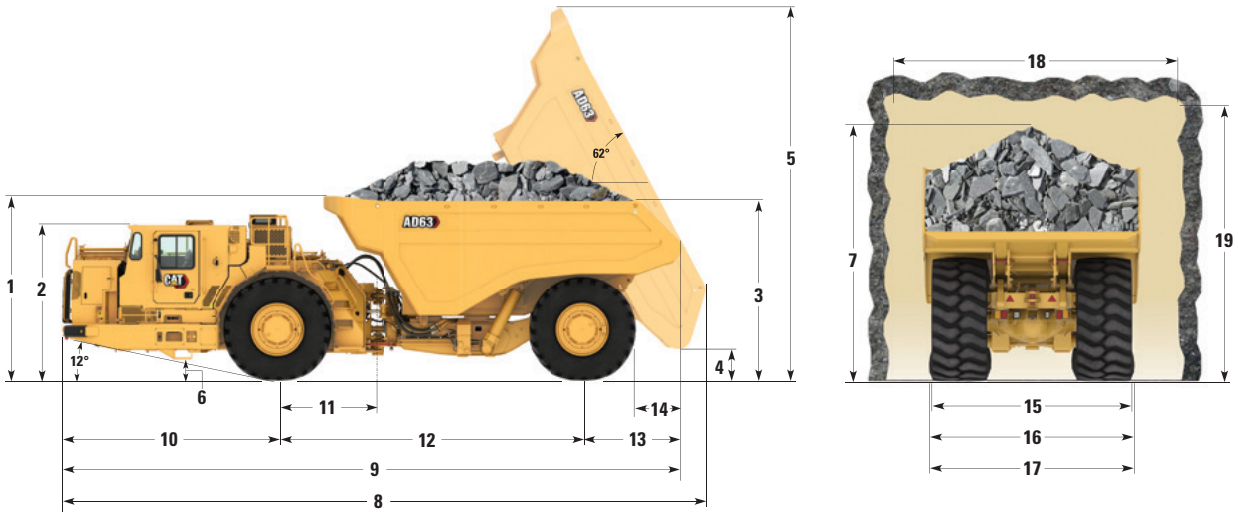
	311-4730 Dump Body		312-1395 Dump Body		307-6655 Dump Body		311-4721 Dump Body	
Body Capacity	26.9 m^3	35.2 yd^3	32.6 m^3	42.6 yd^3	33.8 m^3	44.2 yd^3	36.6 m^3	47.9 yd^3
	mm	in	mm	in	mm	in	mm	in
1 Height – Top of Empty Body	3202	126	3418	135	3556	140.0	3552	140
2 Height – Top of ROPS	3000	118	3000	118	3000	118	3000	118
3 Height – Body Loading	3045	120	3326	131	3426	135	3473	137
4 Height – Dump Clearance**	514	20	514	20	514	20	514	20
5 Height – Top of Raised Body	6969	274	7202	284	7322	288	7176	283
6 Height – Ground Clearance	393	15	393	15	393	15	393	15
7 Height – Top of Load (SAE 2:1)	3830	151	4160	164	4160	164	4300	169
8 Length – Maximum Body Raised	12 064	475	12 180	480	12 222	481	12 241	482
9 Length – Overall Body Down	12 040	474	12 040	474	12 040	474	12 040	474
10 Length – Front Axle to Front Bumper	4164	164	4164	164	4164	164	4164	164
11 Length – Front Axle to Hitch	1920	76	1920	76	1920	76	1920	76
12 Length – Wheel Base	5900	232	5900	232	5900	232	5900	232
13 Length – Rear Axle to Tail	1976	78	1976	78	1976	78	1976	78
14 Length – Rear Wheel to Raised Body	857	34	857	34	857	34	857	34
15 Width – Overall Tire	3250	128	3250	128	3250	128	3250	128
16 Width – Machine with Body	3346	132	3480	137	3480	137	3480	137
17 Width – Machine without Body	3323	131	3323	131	3323	131	3323	131
18 Recommended Clearance Width*	5000	197	5000	197	5000	197	5000	197
19 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.

Dimensions

All dimensions are approximate.



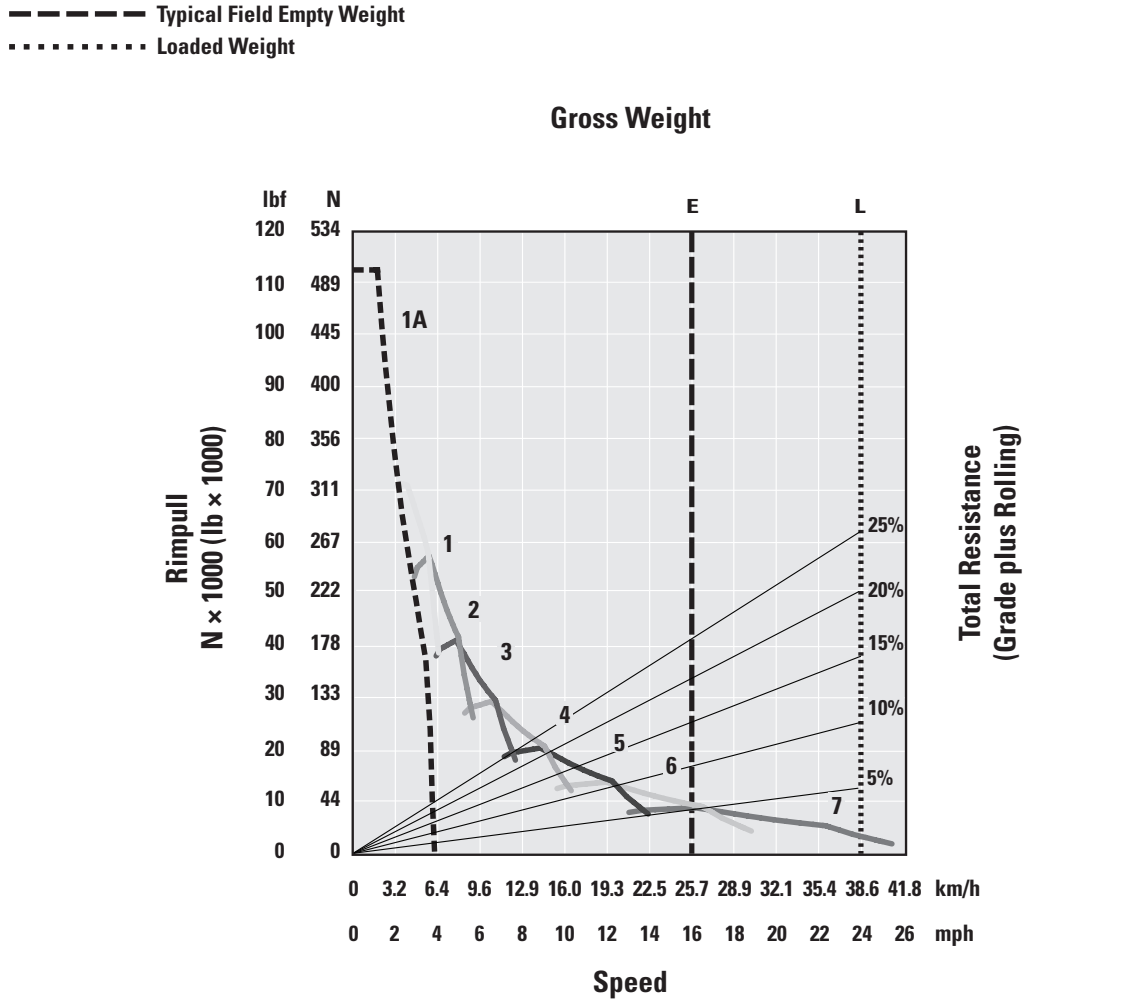
	529-7938 Dump Body Light Material	
Body Capacity	38.3 m^3	50.1 yd^3
	mm	**in**
1 Height – Top of Empty Body	3560	140
2 Height – Top of ROPS	3000	118
3 Height – Body Loading	3473	137
4 Height – Dump Clearance**	598	24
5 Height – Top of Raised Body	7200	283
6 Height – Ground Clearance	393	15
7 Height – 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.

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.



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
ELECTRICAL		
Alarm, reversing	✓	
Alternator, 225 amp	✓	
Disconnect switch, two post, ground level	✓	
Electric starting, 24-volt	✓	
Lights, LED:		
– Headlights with dimmer switch	✓	
– Lights, brake and tail	✓	
– Lights, reversing, automatic when reverse gear selected	✓	
– Work light, rear, cab mounted	✓	
– Light, LED, dump		✓
Receptacle GP, auxiliary start	✓	
Product Link Elite – machine health information	✓	
Shutdown switch, ground level	✓	
Battery Shutdown:		
– Ground Level Isolation, in Cab Isolation Switch		✓
– Ground Level Isolation, Engine Shutdown Switch		✓
– Ground Level Isolation, in Cab Isolation, Engine Shutdown Switch		✓
OPERATOR ENVIRONMENT		
Cab, enclosed:		
– ROPS/FOPS certified	✓	
– Tilt (cab is able to tilt 43° for maintenance access)	✓	
– HVAC, dual system	✓	
Caterpillar Electronic Monitoring System (CEMS), (dash instrument panels)	✓	
Operator Presence System	✓	
Automatic Brake Application (ABA)	✓	
Idle timer (programmable)	✓	
Light, residual brake pressure	✓	
Low hydraulic oil level alarm	✓	
Low park brake pressure indicator	✓	
Mirrors, rearview	✓	
Radio ready	✓	
Seat, trainer/passenger with seat belt	✓	
Steering wheel, tilt/telescopic	✓	

	Standard	Optional
OPERATOR ENVIRONMENT *(continued)*		
Turn signal indicators	✓	
Windshield wiper and washer	✓	
TLV2 Cat Comfort Air Seat	✓	
Brake Pressure Gauges		✓
Seat Cover		✓
Camera, Color Rear Facing		✓
Window Dual Panel		✓
Sun visor		✓
POWER TRAIN		
Brake retarder control, automatic	✓	
Brakes:		
– All wheel disc	✓	
– Oil cooled	✓	
– Parking brakes, four wheels	✓	
Control throttle shifting	✓	
Cat C27 12 cylinder diesel engine	✓	
– EU Stage V	✓	
– Air-to-air aftercooler (ATAAC)	✓	
– Fuel priming aid	✓	
Aftertreatment options		✓
– DPF (flow through)		✓
– DPF (wall flow)		✓
Park Brake Switch Engagement – Push to Apply/Pull to Apply		✓
Transmission, automatic planetary power shift (7F/1R)	✓	
– Gear blockout with tray up, programmable	✓	
– Ground speed limiting, programmable	✓	
– Torque converter with automatic lockup	✓	
Four wheel drive	✓	
Remote transmission cooler	✓	
Fast Fill System		
– Coolant		✓
– Engine Oil		✓
– Fuel (dual tanks)		✓
– Hydraulic Oil		✓
– 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
TIRES, RIMS, AND WHEELS		
Tires, 35/65 R33 VSNT Bridgestone	✓	
Rims (set of four)	✓	
Rim Identification Numbering		✓
Spare rim, tubeless		✓
OTHER EQUIPMENT		
Adapters, oil sample	✓	
Alarm, tray up	✓	
Ansul Fire Suppression, Wet 76L (AS5062)		✓
Axle suspension, front	✓	
Belly guards	✓	
Bumpers, front, rubber	✓	
Cap, radiator, manual release	✓	
Catalytic exhaust purifier/muffler	✓	
Covers, exhaust	✓	
Handholds	✓	
Handrails, fold down	✓	
Hitch, articulated and oscillated	✓	

	Standard	Optional
OTHER EQUIPMENT *(continued)*		
Hydraulic Burst Protection	✓	
Dump body – 26.9 m^3 (35.2 yd^3)	✓	
Dump body – 32.6 m^3 (42.6 yd^3)/ 33.8 m^3 (44.2 yd^3)/36.6 m^3 (47.9 yd^3)/ 38.3 m^3 (50.1 yd^3)		✓
Body Liners, impact and/or wear		✓
Body Wear Plate, external		✓
Body Wear Protection Option		✓
Fluids – arctic fuel, arctic coolant		✓
Cover, anti vandalism for shipping		✓
Lifting lugs, frame	✓	
Lubrication System – automatic		✓
Reflective tapes		✓
Service tools		✓
Truck Payload Measurement System (TPMS), dump body only		✓
Tow pin, front and rear	✓	
Ventilated cover	✓	

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at **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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