

# AD45

## Underground Articulated Truck



### Engine

Engine Model	Cat® C18	
Emissions – EU Stage V Engine		
Engine Power – ISO 14396:2002	447 kW	599 hp
Net Power – SAE J1349:2011	427 kW	573 hp
Emissions – U.S. EPA Tier 3/EU Stage IIIA Equivalent Engine		
Engine Power – ISO 14396:2002	439 kW	589 hp
Net Power – SAE J1349:2011	420 kW	563 hp
Emissions – Ventilation Reduction (VR) Engine		
Engine Power – ISO 14396:2002	439 kW	589 hp
Net Power – SAE J1349:2011	420 kW	563 hp

### Operating Specifications

Nominal Payload Capacity	45 000 kg	99,208 lb
Gross Machine Mass	89 250 kg	196,765 lb
Body Capacities	18.0-25.1 m <sup>3</sup>	23.5-32.8 yd <sup>3</sup>

# The New Underground Articulated Truck (UAT) from Caterpillar to Meet Stage V Emission Control Standards



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**The new AD45 underground articulated truck is powered by Cat® C18 engine with scalable emission solutions. The truck delivers proven operating efficiency with improvements of serviceability.**

**The AD45 is a powerful new tool for underground mining.**

# Power Train – Engine

Emission reduction options to meet your mine's requirement.



The Cat® C18 engine provides efficient fuel management for quick response, high productivity and exceptional service life. Torque rise effectively matches transmission shift points for maximum efficiency and fast cycle times. Mechanically Actuated, Electronic Unit Injection (MEUI™) high-pressure, direct injection fuel system electronically monitors operator demands and sensor inputs to optimize engine performance. Air-to-air aftercooling provides improved fuel economy by packing cooler, denser air into cylinders for more complete combustion of fuel and lower emissions. Turbo is water cooled to improve performance and service life.

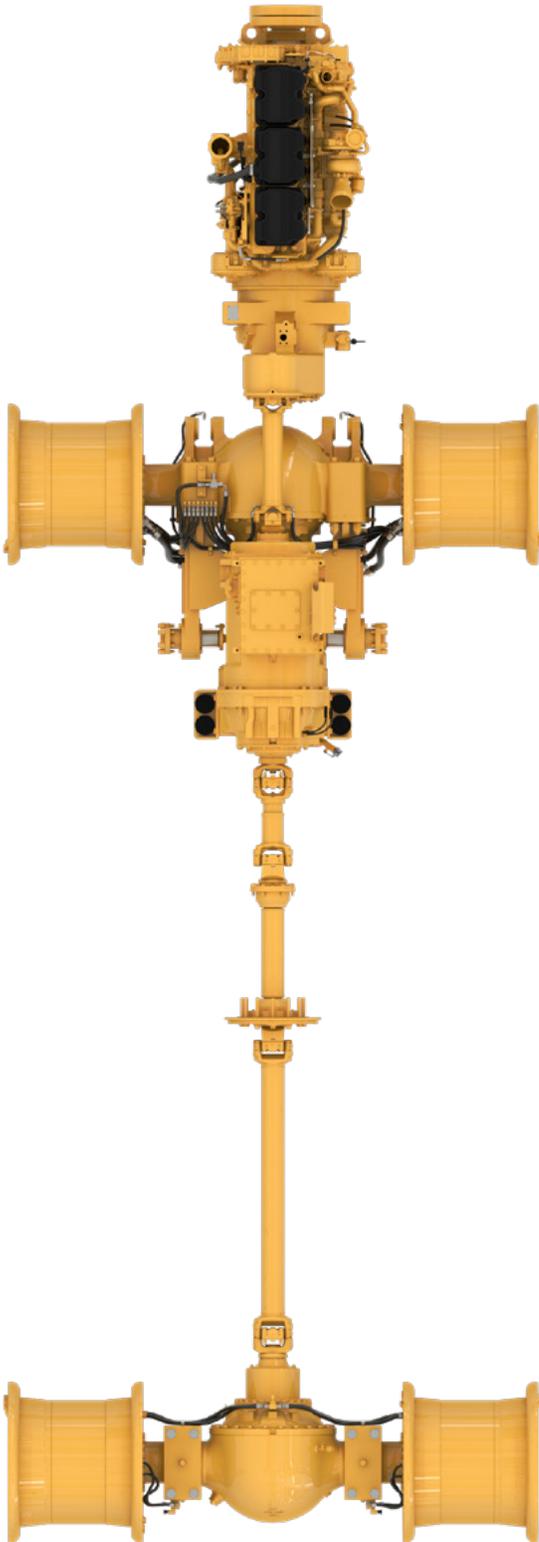
The engine with Stage V emission package is recommended for mines that require compliance with highest emission standards in underground applications or customers that require to drive down diesel particulate matter and NOx emission to near-zero while improving overall air quality and maintaining a high machine performance. After-treatment components are carefully guarded and heat wrapped. The system uses regeneration to manage emissions inside the Clean Emissions Module (CEM). This solution requires the use of 15 PPM ultra-low sulfur diesel and CJ-4 low ash engine oil.

The engine with optional Ventilation Reduction Package is also available. The VR Package focuses on diesel particulate matter and it incorporates selective engine hardware and software to minimize diesel particulate matter in the engine exhaust. A Cat Diesel Particulate Filter (wall flow filter or flow through filter) can be used with the VR engine package. The filters compliment the VR engine by further reducing particulate matter in the exhaust. This solution requires the use of 15 PPM ultra-low sulfur diesel and CJ-4 low ash engine oil.

Optional Tier 3 equivalent and Stage IIIA equivalent engine is also available.

# Power Train – Transmission

More power to the ground  
for greater productivity.



## **Mechanical Power Train**

The Cat mechanical drive power train and power shift transmission provide unmatched operating efficiency and control on steep grades, in poor underfoot conditions, and on haul roads and drives with high rolling resistance.

## **Transmission**

The Cat seven-speed planetary power shift transmission is matched with the direct-injection C18 engine to deliver constant power over a wide range of operating speeds.

## **Robust Design**

Designed for rugged underground mining conditions, the proven planetary power shift transmission is built for long life between overhauls.

## **Lock Up Torque Converter**

Combines maximum rimpull and cushioned shifting of torque converter drive with the efficiency and performance of direct drive. When engaged, lock-up provides superior power train efficiency by delivering more power to the wheels.

## **Lock-Up Clutch**

Quickly releases and re-engages to reduce power train torque loads for smoother shifting, long life and a more comfortable ride.

## **Smooth Shifting**

Individual clutch modulation provides smooth clutch engagements to optimize performance and extend clutch life.

## **Final Drives**

Cat final drives work as a system with the planetary power shift transmission to deliver maximum power to the ground. Built to withstand the forces of high torque and impact loads, final drives provide high torque multiplication to further reduce drive train stress.

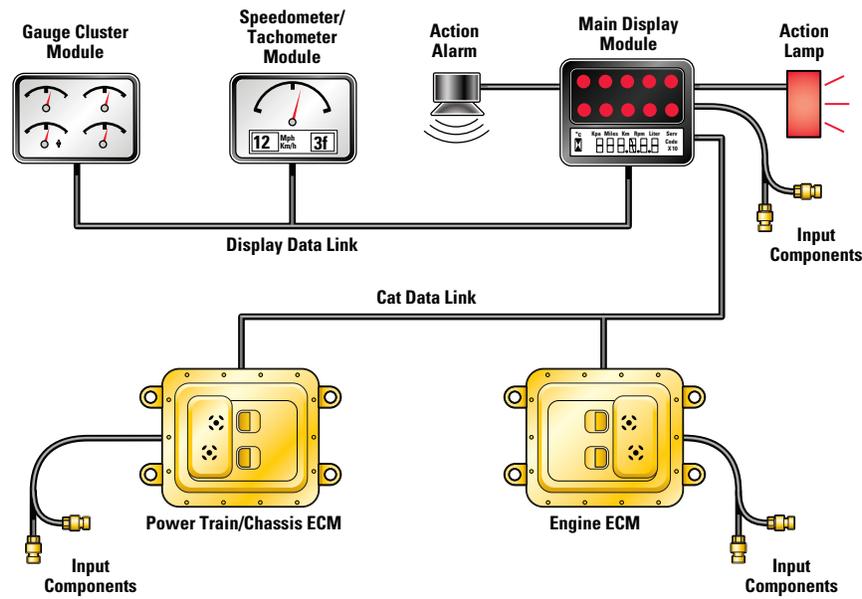
## **Full Floating Axles**

Full floating axles relieve internal stresses and increase durability. Rolled splines also provide increased service life.

# Engine/Power Train Integration

Intelligent electronics for overall optimal performance.

## CAT MONITORING SYSTEM



### Cat Data Link

Electronically integrates machine computer systems to optimize overall power train performance, increase reliability and component life, and reduce operating costs.

- **Controlled Throttle Shifting** – Regulates engine RPM, torque converter lock-up and transmission clutch engagement for smoother shifts and longer component life.
- **Economy Shift Mode** – Decreases fuel consumption, lowers noise levels and potentially longer engine life.
- **Directional Shift Management** – Regulates engine speed to prevent damage caused by high speed directional changes.
- **Body-up Shift Inhibitor** – Prevents the transmission from shifting above a pre-programmed gear without the body fully lowered.

### Electronic Technician (Cat ET)

Cat ET service tool provides service technicians with easy access to stored diagnostic data through Cat Data Link to simplify problem diagnosis and increase availability.

### Overspeed Protection

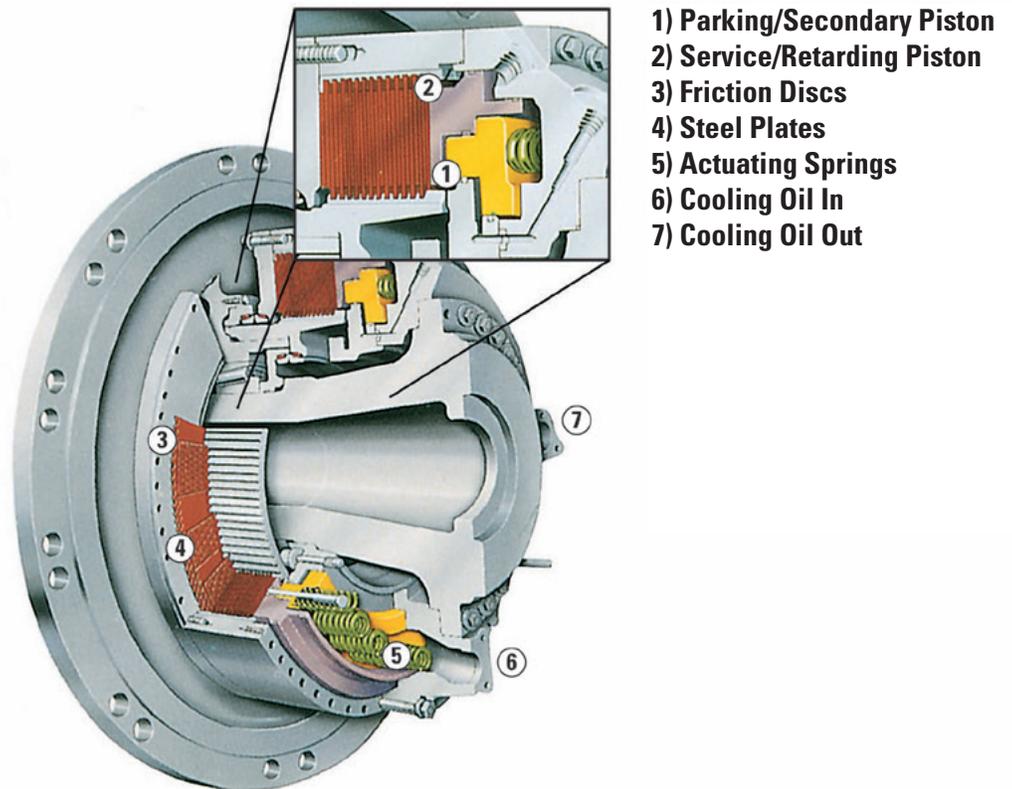
The Automatic Retarder Control (ARC) system provides engine overspeed protection. The ARC will engage the brakes if the following conditions exist at the same time:

- An unsafe engine speed is reached.
- The ARC on/off switch is in the ON position or the OFF position.
- The throttle is being depressed by the operator.

If the transmission is in top gear, the lockup clutch is deactivated in order to protect the engine against an engine overspeed condition.

# Cat<sup>®</sup> Brake System

Superior control for operator confidence.



## Integrated Braking System

The Cat oil-cooled braking system delivers reliable performance and control in the most extreme underground mining conditions. The integrated system combines the service, secondary, parking brake and retarding functions in the same robust system for optimum braking efficiency.

## Oil-Cooled Multiple Disc Brakes

Four-wheel, forced oil-cooled, multiple disc service brakes are continuously cooled by a water-to-oil heat exchangers for non-fade braking and retarding performance. They are also completely enclosed to prevent contamination and reduce maintenance.

## Automatic Retarder Control (ARC)

Electronically controls retarding on grade to maintain optimum engine RPM and oil cooling. Additional braking may be applied using the manual retarder or the brake pedal. ARC also allows the operator to maintain optimum engine speeds for faster downhill hauls and greater productivity. The ARC automatically activates when engine speed exceeds factory preset levels.

## Superior Control

Automatic brake modulation offers a smoother ride and greater control, allowing the operator to concentrate on driving.



## Operator Comfort

Ergonomically designed for all-day comfort, control and productivity.

The AD45 operator station is ergonomically designed for total machine control in a comfortable, productive and safe environment. All controls, levers, switches and gauges are positioned to maximize productivity and minimize operator fatigue.

### Protective Structure

Integral to the cab and frame, both the Rollover Protective Structure (ROPS) and Falling Objects Protective Structure (FOPS) are resiliently mounted to the mainframe to isolate the operator from vibration for a more comfortable ride.

### Optional Enclosed Cab

Optional sound-suppressed ROPS cab provides a quiet, secure and comfortable air-conditioned working environment with fresh, pressurized, temperature-controlled air circulation.

### Suspension Seat

Ergonomic, fully adjustable suspension seat provides optimal operator comfort. Thick cushions reduce pressure on lower back and thighs. Wide, retractable seat belts provide a secure, comfortable restraint.

### Steering Column

Comfort wheel with tilt steering provides a comfortable driving position, secure grip and greater control.

### Monitoring System

Cat Electronic Monitoring System (Cat EMS) continuously provides critical machine data to keep the machine performing at top production levels. Displays are backlit for easy viewing. The Stage V model offers additional emission display allows emission status monitoring.

### Cameras

Additional camera mounted on the right hand side enhances operator visibility for the EU Stage V model and along with the reverse and cab loading cameras (optional for other machines) further assists operators to navigate the truck safely.

# Truck Body Systems

Rugged performance and reliability in tough underground mining applications.



## Cat Truck Bodies

Caterpillar offers two specific body styles for the most efficient hauling solutions at the lowest cost-per-ton.

- Dump Body
- Ejector Body

The ejector body can now be easily removed and a dump body fitted for greater machine versatility.

## Body Selection

Selection of the right body depends on material, haul road, and dump conditions. The better the match of body to application, the greater the efficiency. Your Cat dealer can help you select the right body system for your site specific application.

## Body Design

Cat truck bodies are designed for optimal strength, capacity and durability. Drawing on years of experience in truck body design, Cat Truck Bodies are designed for long service life and low cost per ton.

## Body/Chassis Integration

Cat truck bodies are designed and matched with the integrated chassis system for optimum structural reliability, durability and long life.

## Fast Hoist Cycle Times

Single-stage hoist cylinders provide fast dump cycle times of 16 seconds for raise and 21 seconds for lower.

## Truck Payload Management System (TPMS)

The optional TPMS system calculates the payload the truck is carrying and determines truck cycle times. It now offers payload scoreboards on both sides of the truck providing the LHD operator with visual real time payload data.



# Structures

Rugged Cat structures – the backbone of the AD45's durability.



## Frame Design

The frame uses box-section design with stiff frame beams to resist twisting forces. Materials and weld joints are matched to optimize the structural life of the frame.

## Articulating/Oscillating Hitch

This system provides steering and oscillation and enables the truck to maintain all wheel ground contact in rough terrain.

## Suspension System

Two independent variable rebound suspension cylinders dissipate haul road forces for longer frame life and a comfortable ride.

# Serviceability

More time for production.



## Service Access

Easy access to daily service points simplifies servicing and reduces time spent on regular maintenance procedures.

## Ground-Level Access

Allows convenient servicing to all tanks, filters, lubrication points and compartment drains.

Electric fuel priming. Remote mounted fuel filters for easier serviceability.

## Air Filters

Radial seal air filters are easy to change, reducing time required for air filter maintenance.

## Sight Gauges

Fluid level checks are made easier with sight gauges.

## Diagnostics

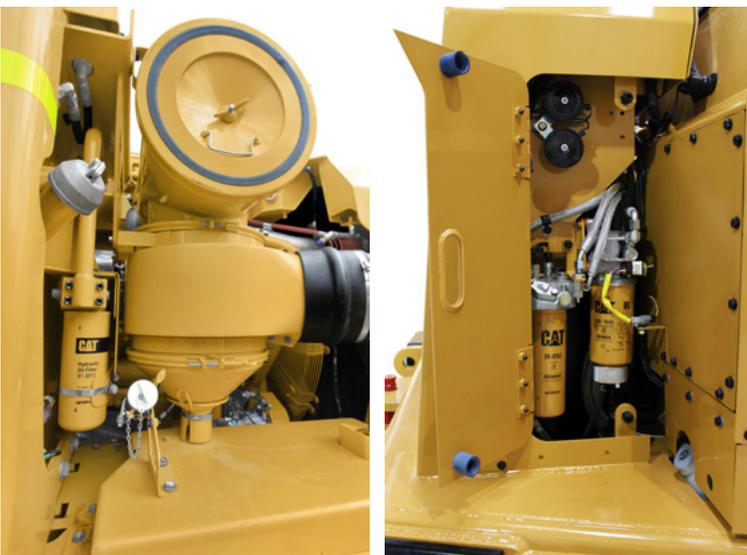
Cat Electronic Technician (Cat ET) service tool enables quick electronic diagnosis of machine performance and key diagnostic data for effective maintenance and repairs.

## Sealed Electrical Connectors

Electrical connectors are sealed to lock out dust and moisture. Harnesses are covered for protection. Wires are color and number coded for easy diagnosis and repair.

## Scheduled Oil Sampling

S-O-S<sup>SM</sup> helps avoid minor repairs becoming major ones. Sample point adapters fitted standard to machine.





## Customer Support

Cat dealer services keep underground mining equipment productive.

### Dealer Capability

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

### Product Support

When Cat products reach the field, they are supported 24/7 by a worldwide network of reliable and prompt parts distribution facilities, dealer service centers, and technical training facilities to keep your equipment up and running.

### Service Support

Cat equipment is designed and built to provide maximum productivity and operating economy throughout its working life. Cat dealers will be with you every step of the way with its unsurpassed worldwide parts support, trained technicians and customer support agreements.

### Technology Products

Cat dealers offer a range of advanced technology products designed to improve efficiency, productivity and lower costs. New Product Link™ Elite (PLE) system standard on all models provides machine health monitoring.

### Replacement

Repair or rebuild? Your Cat dealer can help you evaluate the costs so you can make the right choice.

# Safety

Designed with safety as the first priority.



## Product Safety

Caterpillar has been and continues to be proactive in developing mining machines that meet or exceed safety standards. Safety is an integral part of all machine and systems designs.

## Engine Shutoff Switch

A secondary engine shutoff switch is located at ground level.

## Integral ROPS Cab

Integral to the cab and frame, the ROPS is resiliently mounted to the frame to isolate the operator from vibration for a more comfortable ride.

## Brake Systems

Four corner oil-cooled braking system provides excellent control. The service brakes and retarding system are actuated by modulated hydraulic pressure, while the parking brake function is spring applied and hydraulic released. This system assures braking in the event of loss of hydraulic pressure.

## Operator Present System

Automatically engages parking brake, neutralizes steering, implement and transmission control, and shuts down the engine in the event the operator fails to apply the park brake prior to exiting the cab.

## Standard Safety Features

Anti-skid upper deck surfaces, upper deck handrails, 3-point cabin and machine access, push out safety glass, excellent visibility, suspension seat, passenger/training seat, inertia reel retractable belts, steering frame lock, rear window guard, body retaining pins, automatic retarder control, exhaust heat shielding and firewall fitted standard, hitch hydraulic hoses – burst protection sleeves fitted, tailgate retaining pins (ejector body), alternate exit via windows, ground level compartment sight glasses, hot and cold side of engine.

## SAFETY.CAT.COM™

For more complete information on safety, please visit [www.cat.com/safety](http://www.cat.com/safety).

# Manufacturing

## A Focus on Quality and Safety

The AD45 is designed in Burnie Tasmania (Australia) and manufactured in Rayong Thailand.

Burnie is also home of the Caterpillar Burnie Proving Grounds where a complete Command for Underground test facility and training center is available to customers. A video of this facility is available at [www.cat.com/underground](http://www.cat.com/underground).

The Caterpillar factory in Rayong is one of the newest manufacturing facilities at Caterpillar, with 100 percent focus given to underground hard rock mining products.

The Rayong facility was designed and built by Caterpillar, and is managed and operated by a highly skilled and uniquely diverse team who have embedded the Cat Production System into their culture.

Upon joining the team in Rayong, an employee will undergo 250 hours of training before performing their task on the line. Significantly more education is given to our welders. To ensure they succeed in their tasks, we provide our welders with the latest tooling so that our team can work ergonomically and achieve the weld penetration specified. The quality of your Cat machine starts with this team.

Each step of the manufacturing process has quality control gates, and every single employee is empowered to stop the assembly line to continuously improve safety or the manufacturing process.

A clean environment helps keep components free of contaminants and provides a better work climate. Like all Caterpillar facilities around the world, visitors are most welcome to see where and how their machines are made.



# AD45 Underground Articulated Truck Specifications

## Engine

Engine Model	Cat® C18	
Engine Power – VR Engine – ISO 14396:2002	439 kW	589 hp
Engine Power – Tier 3/Stage IIIA Equivalent Engine – ISO 14396:2002	439 kW	589 hp
Engine Power – Stage V Engine – ISO 14396:2002	447 kW	599 hp
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1,104.53 in <sup>3</sup>

- Power ratings apply at a rated speed of 2,000 rpm when tested under the reference conditions for the specified standard.
- All rating conditions are based on ISO/TR14396:2002, 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 (7.05-7.09 lb/gal @ 59° F) and fuel inlet temperature 40° C (104° F).
- Minimal engine derating\* required up to 3048 m (10,000 ft) @ rated speed for Stage V engines, 2700 m (8,858 ft) for Tier 3/ Stage IIIA equivalent engines and 3505 m (11,500 ft) for Tier 2/ Stage II equivalent VR engines.
- Optional Ventilation Reduction Package available.
- Optional engine with emissions equivalent to Tier 3 and Stage IIIA is also available.
- Optional engine available that meets U.S. EPA Tier 4 Final and EU Stage V emission standards.

\* < 5 %

## Operating Specifications

Nominal Payload Capacity	45 000 kg	99,208 lb
Gross Machine Mass	88 820 kg	195,815 lb
Shipping Mass (Stage V Engine Model)	43 645 kg	96,225 lb
Shipping Mass (Other Engine Models)	42 825 kg	94,415 lb

## Weights (Stage V Engine Model)

Operating Mass	41 405 kg	91,285 lb
Front Axle	29 285 kg	64,565 lb
Rear Axle	12 120 kg	26,720 lb
Operating Mass + Rated Payload	86 405 kg	190,495 lb
Front Axle	40 475 kg	89,235 lb
Rear Axle	45 930 kg	101,260 lb

## Weights (Other Engine Models)

Operating Mass	40 060 kg	88,320 lb
Front Axle	27 770 kg	61,225 lb
Rear Axle	12 290 kg	27,095 lb
Operating Mass + Rated Payload	85 060 kg	187,530 lb
Front Axle	38 715 kg	85,355 lb
Rear Axle	46 345 kg	102,175 lb

## Weight Distribution (Stage V Engine Model)

Empty		
Front Axle	70.7%	
Rear Axle	29.3%	
Loaded		
Front Axle	46.8%	
Rear Axle	53.2%	

## Weight Distribution (Other Engine Models)

Empty		
Front Axle	69.3%	
Rear Axle	30.7%	
Loaded		
Front Axle	45.5%	
Rear Axle	54.5%	

# AD45 Underground Articulated Truck Specifications

## Transmission

Forward 1	7.0 km/h	4.4 mph
Forward 2	9.5 km/h	5.9 mph
Forward 3	12.9 km/h	8.0 mph
Forward 4	17.3 km/h	10.8 mph
Forward 5	23.5 km/h	14.6 mph
Forward 6	31.7 km/h	19.7 mph
Forward 7	42.4 km/h	26.4 mph
Reverse 1	6.8 km/h	4.2 mph
Reverse 2	9.0 km/h	5.6 mph

• Maximum travel speeds with standard 29.5 × R29 tires.

## Final Drives

Differential Ratio	3.46:1
Final Drive Ratio	5.65:1
Total Reduction Ratio	19.55:1

## Dump Body Cycle Time (Stage V Engine Model)

Raise	15 Seconds
Lower	21 Seconds
Total Cycle Time	36 Seconds

## Dump Body Cycle Time (Other Engine Models)

Raise	14 Seconds
Lower	21 Seconds
Total Cycle Time	35 Seconds

## Ejector Body Cycle Time (Stage V Engine Model)

Eject	19 Seconds
Retract	24 Seconds
Total Cycle Time	43 Seconds

## Ejector Body Cycle Time (Other Engine Models)

Eject	18 Seconds
Retract	23 Seconds
Total Cycle Time	41 Seconds

## Body Capacities

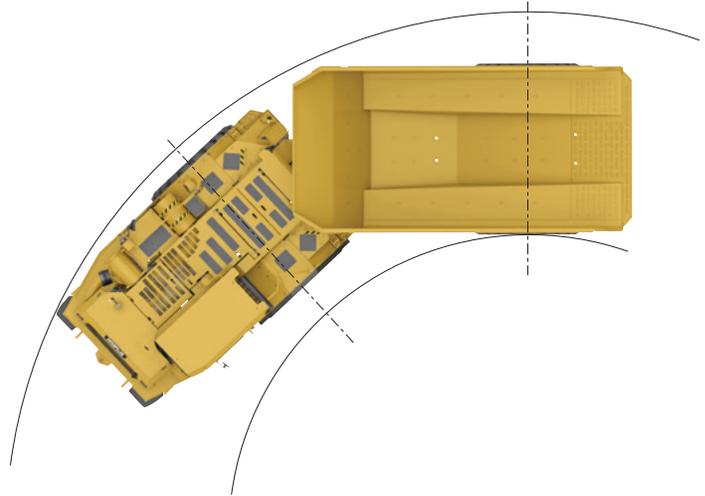
Dump Body 1	18.0 m <sup>3</sup>	23.6 yd <sup>3</sup>
Dump Body 2 (Standard Body)	21.3 m <sup>3</sup>	27.9 yd <sup>3</sup>
Dump Body 3	25.1 m <sup>3</sup>	32.8 yd <sup>3</sup>
Ejector Body	22.9 m <sup>3</sup>	29.9 yd <sup>3</sup>

• Heaped SAE 2:1.

## Turning Dimensions

Outside Clearance Radius*	9420 mm	371 in
Inside Clearance Radius*	5310 mm	209 in
Frame Oscillation	10°	
Articulation Angle	42.5°	

\*Clearance dimensions are for reference only.



## Service Refill Capacities

Engine Crankcase with Filter	64 L	16.9 gal
Transmission	60 L	15.9 gal
Hydraulic Tank	266 L	70.3 gal
Cooling System	85 L	22.5 gal
Front Differentials and Final Drives	77 L	20.3 gal
Rear Differentials and Final Drives	83 L	21.9 gal
Fuel Tank	764 L	201.8 gal

## Tires

Tire Size	29.5 × R29
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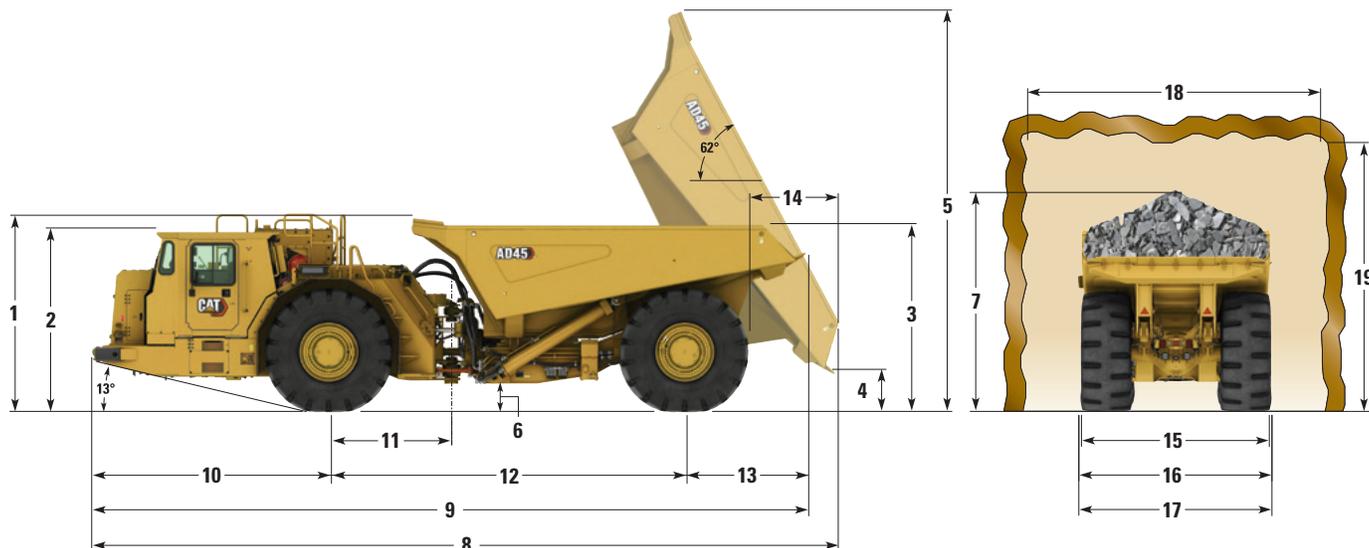
## Standards

ROPS/FOPS Certified Cab

# AD45 Underground Articulated Truck Specifications

## Dimensions

All dimensions are approximate.



	307-1156		267-5319		275-0710		361-8300	
	Dump Body		Dump Body (STD)		Dump Body		Ejector Body	
Body Capacity	18.0 m <sup>3</sup>	23.5 yd <sup>3</sup>	21.3 m <sup>3</sup>	27.9 yd <sup>3</sup>	25.1 m <sup>3</sup>	32.8 yd <sup>3</sup>	22.9 m <sup>3</sup>	29.9 yd <sup>3</sup>
	mm	in	mm	in	mm	in	mm	in
<b>1</b> Height – Top of Empty Body	2830	111.4	3035	119.5	3181	125.2	3464	136.4
<b>2</b> Height – Top of ROPS	2820	111.0	2820	111.0	2820	111.0	2820	111.0
<b>3</b> Height – Body Loading	2720	107.1	2924	115.1	3070	120.9	3177	125.1
<b>4</b> Height – Dump Clearance**	659	25.9	659	25.9	659	25.9	961	37.8
<b>5</b> Height – Top of Raised Body	6019	237.0	6361	250.4	6607	260.1	—	—
<b>6</b> Height – Ground Clearance	441	17.4	441	17.4	441	17.4	441	17.4
<b>7</b> Height – Top of Load (SAE 2:1)	3424	134.8	3628	142.8	3834	150.9	3920	154.3
<b>8</b> Length – Maximum Overall Length	11 535	454.1	11 620	457.5	11 680	459.8	12 125	477.4
<b>9</b> Length – Overall Body Down	11 196	440.8	11 196	440.8	11 196	440.8	11 325	445.9
<b>10</b> Length – Front Axle to Front Bumper	3720	146.5	3720	146.5	3720	146.5	3720	146.5
<b>11</b> Length – Front Axle to Hitch	1920	75.6	1920	75.6	1920	75.6	1920	75.6
<b>12</b> Length – Wheel Base	5570	219.3	5570	219.3	5570	219.3	5570	219.3
<b>13</b> Length – Rear Axle to Tail	1906	75.0	1906	75.0	1906	75.0	2035	80.1
<b>14</b> Length – Rear Wheel to Raised Body	1275	50.2	1275	50.2	1275	50.2	1835	72.2
<b>15</b> Width – Overall Tire	3020	118.9	3020	118.9	3020	118.9	3020	118.9
<b>16</b> Width – Machine with Body	3020	118.9	3020	118.9	3200	126.0	3200	126.0
<b>17</b> Width – Machine without Body	3020	118.9	3020	118.9	3020	118.9	3020	118.9
<b>18</b> Recommended Clearance Width*	4500	177.2	4500	177.2	4500	177.2	4500	177.2
<b>19</b> Recommended Clearance Height*	4500	177.2	4500	177.2	4500	177.2	4500	177.2

\*Clearance dimensions are for reference only.

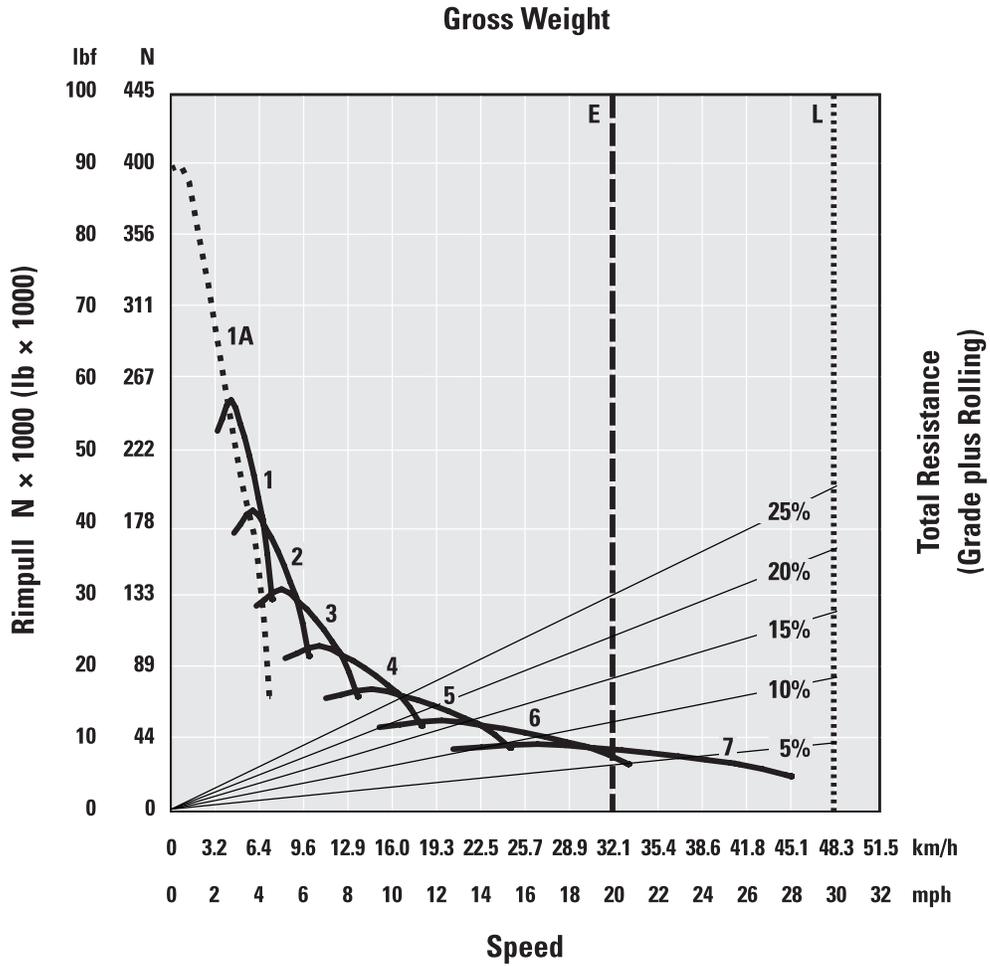
\*\*Measurement taken with tailgate down for ejector body.

# AD45 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 2% 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 40 000 kg (88,185 lb)
- L – Loaded 85 000 kg (187,393 lb)

## Standard Equipment

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

### ELECTRICAL

- 12V power supply in cab
- Alternator, 95-amp
- Auxiliary start receptacle
- Battery disconnect switch, ground level
- Circuit breaker, 80-amp
- Corrosive protection spray
- Diagnostic connector
- Electric starting, 24V
- Engine shutdown switch, ground level
  - Front left hand side
- Lighting
  - Headlights with dimmer switch, LED
  - Brake and tail lights
  - Rear work light (cab mounted), LED
  - Reversing lights, LED
- Low maintenance batteries
- Reversing alarm
- Starting and charging system

### OPERATOR ENVIRONMENT

- Cat Electronic Monitoring System (Cat EMS)
- Electric horns
- Gauges
  - Engine coolant temperature
  - Transmission coolant temperature
  - Hydraulic oil temperature
  - Fuel level
  - Speedometer
  - Tachometer
- Indicator lights
  - Alert warning light
  - Body up position warning
  - High beam
  - Residual brake pressure warning
  - Retarder application
  - Turn signal
- Low hydraulic level warning
- Open operator station ROPS/FOPS structure
- Operator presence system (auto park brake)
- Rearview mirrors
- Suspension seat Cat Comfort TLV2 with retractable seat belt
- Trainer/passenger seat and seat belt
- Tilt/telescopic steering wheel
- Turn signal indicators

### POWER TRAIN

- Cat C18 ATAAC diesel engine, 6-cylinder
- Automatic brake retarder control
- Auto shift transmission 7 speed forward/ 2 speed reverse
- Control throttle shifting
- Engine air intake precleaner
- Electric fuel priming pump
- Exhaust, turbo compartment shielding
- Four wheel drive
- Long life coolant
- Programmable ground speed limiting
- Programmable gear block out with tray up
- Radiator cap manual release
- Radiator, cross flow
- SAFR™ full hydraulic enclosed wet, multiple-disc brakes, oil cooled
- Torque converter, standard with automatic lockup

### OTHER STANDARD EQUIPMENT

- Body, dump, (21.3 m<sup>3</sup>, 27.9 yd<sup>3</sup>)
- Catalytic exhaust purifier/muffler group
- Centralized lubrication points
- Decals, international picto graphics
- Dual fuel tanks
- Engine and transmission belly guards
- Fenders, front, rear flaps
- Fire wall
- Fuel system manual shut off tap
- Front axle suspension
- Frame lifting lugs
- Front and rear tow pin
- Front rubber bumpers
- Gauges, brake pressure
- Hand hold (access on/off top deck)
- Hitch, articulated and oscillated
- Operation and Maintenance Manual – English and other applicable local languages to select
- S·O·S port
  - Coolant
  - Engine oil
  - Hydraulic oil
  - Transmission oil
- Swing out radiator grill
- Tires and rims: A tire must be selected from the mandatory attachments section of the machine price list. Base machine price includes a standard tubeless rim allowance only.

# AD45 Optional Equipment

## Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

- Battery shutdown
  - Ground level isolation, in cab isolation switch
  - Ground level isolation, engine shutdown switch
  - Ground level isolation, in cab isolation, engine shutdown switch
- Body dump
  - Body, (18.0 m<sup>3</sup>, 23.5 yd<sup>3</sup>)
  - Body, (25.1 m<sup>3</sup>, 32.8 yd<sup>3</sup>)
- Body ejector
  - Ejector, (22.9 m<sup>3</sup>, 30.0 yd<sup>3</sup>)
- Body liners, impact and/or wear
  - 10 mm (0.4"), body, dump (18.0 m<sup>3</sup>, 23.5 yd<sup>3</sup>)
  - 10 mm (0.4"), body, dump (21.3 m<sup>3</sup>, 27.9 yd<sup>3</sup>)
  - 10 mm (0.4"), body, dump (25.1 m<sup>3</sup>, 32.8 yd<sup>3</sup>)
  - 10 mm (0.4"), body, ejector, (22.9 m<sup>3</sup>, 30.0 yd<sup>3</sup>)
- Body wear plate, external
  - 16 mm (0.62"), body, dump (18.0 m<sup>3</sup>, 23.5 yd<sup>3</sup>)
  - 16 mm (0.62"), body, dump (21.3 m<sup>3</sup>, 27.9 yd<sup>3</sup>)
  - 16 mm (0.62"), body, dump (25.1 m<sup>3</sup>, 32.8 yd<sup>3</sup>)
- Camera
  - Color rear facing
  - Color loading
- Cover, anti vandalism for shipping
- Engine options
  - Engine, Stage V
  - Engine, Ventilation Reduction (VR)
  - Equivalent to Tier 3
  - After-treatment options (for use with VR Engine only)
- DPF (Flow Through) Filter
- Fast fill system
  - Coolant
  - Engine oil
  - Fuel (dual tanks)
  - Hydraulic oil
  - Transmission oil
- Fire suppression system
  - Ansul, wet
- Fluids
  - Arctic fuel
  - Arctic coolant
- Handrail Extension
- Lubrication system
  - Automatic, dump or ejector body
  - Centralized, ejector body
- Mine transfer
  - Mine transfer ready front frame (tack welded)
  - Mine transfer ready dump body (tack welded)
  - Mine transfer ready ejector body (tack welded)
- Operators station ROPS/FOPS enclosed
  - Air conditioning
  - Cab pressurizer and filter
  - Dome light
  - Heater
  - Radio ready compartment for radio and speakers
  - Sun visor
  - Window, sliding cab door
- Park brake switch engagement
  - Push to apply
  - Pull to apply
- Payload
  - Truck Payload Measurement System (TPMS)
  - Remote display for TPMS
- Reflective tape
- Rims
  - Rim identification numbering
  - Spare, tubeless
- Seat
  - Suspension seat Cat Comfort TLV2, vinyl
  - Suspension seat tee, mechanical
- Seat cover
  - Tee and Cat Comfort TLV2
  - Seat cover, companion
- Secondary steering system
- Service tools
  - Collet jacking bolts, dump or ejector
  - Diagnostics box
  - Hoist cylinder supports (for body removal)
  - Brake wear gauge
  - Reference parts manual for additional tooling available
- Switches
  - Engine shutdown, fire suppression activation
  - Idle timer
  - Engine shutdown, fire suppression activation/idle timer
- Technology
  - Product Link Elite (PLE) system
- Tire arrangements
  - Tire, 29.5 × R29 VSNT Bridgestone
  - Tire, 29.5 × R29 VSDL Bridgestone
- Torque converter, high altitude, 3000 m (9,842 ft) and up
- **NOTE:** Not all features are available in all regions. See your Cat dealer for more information.







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