



735

Articulated Truck

Technical Specifications

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

Table of Contents

Specifications	2
Engine	2
Weights	2
Body Capacities	2
Transmission	2
Sound Levels	2
Operating Weights	3
Body Plate	3
Body Plate Thickness	3
Service Refill Capacities	3
Body Hoist	3
Standards	3
Dimensions	4
Turning Circle	5
Steering	5
Optimal Loader/Truck Pass Matching	5
Gradeability/Speed/Rimpull	6
Retarding Performance	7
Standard and Optional Equipment	8

735 Articulated Truck Specifications

Engine

Engine Model	Cat® C13A	
Gross Power (SAE J1995)	306 kW	410 hp
Net Power (SAE J1349)	298 kW	400 hp
Engine Power (ISO 14396)	301 kW	404 hp
Bore	130 mm	5.1 in
Stroke	157 mm	6.2 in
Displacement	12.5 L	736 in ³

- Advertised power is tested per the specified standard in effect at the time of manufacture.
- Advertised power is tested at 1,800 rpm.
- Net power available at the flywheel when the engine is equipped with alternator, air cleaner, muffler, and fan at minimum speed.
- Net power when the fan is at maximum speed is 298 kW (400 hp) per the SAE reference conditions.
- Two engine emission options are available:
 1. Meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
 2. Noncertified configuration that is equivalent to U.S. EPA Tier 2 and EU Stage II.

No Engine Derating Below	3810 m	12,500 ft
Peak Engine Torque Gross (SAE J1995:2014)	2192 N·m	1,617 lbf·ft
Peak Engine Torque Net (SAE J1349:2011)	2155 N·m	1,589 lbf·ft
Peak Engine Torque Speed	1,200 rpm	

Weights

Rated Payload	32 tonnes	35.3 tons
---------------	-----------	-----------

Body Capacities

Heaped SAE 2:1	20.0 m ³	26.2 yd ³
Struck	16.0 m ³	20.9 yd ³
Tailgate Heaped SAE 2:1	21.7 m ³	28.4 yd ³
Tailgate Struck	17.0 m ³	22.2 yd ³

Transmission

Forward 1	8 km/h	5 mph
Forward 2	15 km/h	9 mph
Forward 3	23 km/h	14 mph
Forward 4	35 km/h	22 mph
Forward 5	48 km/h	30 mph
Forward 6	57 km/h	35 mph
Reverse 1	9 km/h	6 mph

Sound Levels

Interior Cab	72 dB(A)
--------------	----------

- The declared dynamic operator sound pressure level is 72 dB(A) when ISO 6396:2008 is used to measure the value for an enclosed cab. The measurement was conducted at 70% of the cooling fan's maximum speed. The sound level may vary at different cooling fan speeds. The measurement was conducted with the cab doors and the cab windows closed. The cab was properly installed and maintained.
- Hearing protection may be needed when operating with an open operator station and cab or when not properly maintained or with doors/windows open for extended periods or in noisy environments.

735 Articulated Truck Specifications

Operating Weights

Front Axle – Empty	14 580 kg	32,143 lb
Center Axle – Empty	5110 kg	11,266 lb
Rear Axle – Empty	4890 kg	10,781 lb
Total – Empty	24 580 kg	54,190 lb
Front Axle – Rated Load	4054 kg	8,938 lb
Center Axle – Rated Load	13 973 kg	30,805 lb
Rear Axle – Rated Load	13 973 kg	30,805 lb
Total – Rated Load	32 000 kg	70,548 lb
Front Axle – Loaded	18 634 kg	41,081 lb
Center Axle – Loaded	19 083 kg	42,071 lb
Rear Axle – Loaded	18 863 kg	41,586 lb
Total – Loaded	56 580 kg	124,737 lb

Body Plate

High strength Brinell HB450 wear resistant steel

Body Plate Thickness

Front Plate	7 mm	0.28 in
Base Plate	13 mm	0.51 in
Side Plates	11 mm	0.43 in

Service Refill Capacities

Fuel Tank	412 L	108.8 gal
Cooling System	83 L	21.9 gal
Hydraulic System	110 L	29.1 gal
Engine Crankcase	38 L	10.0 gal
Transmission	56 L	12.3 gal
Final Drives/Differential	125 L	33.0 gal
Output Transfer Gear Box	25 L	5.5 gal

Body Hoist

Raise Time	12 Seconds
Lower Time	11 Seconds

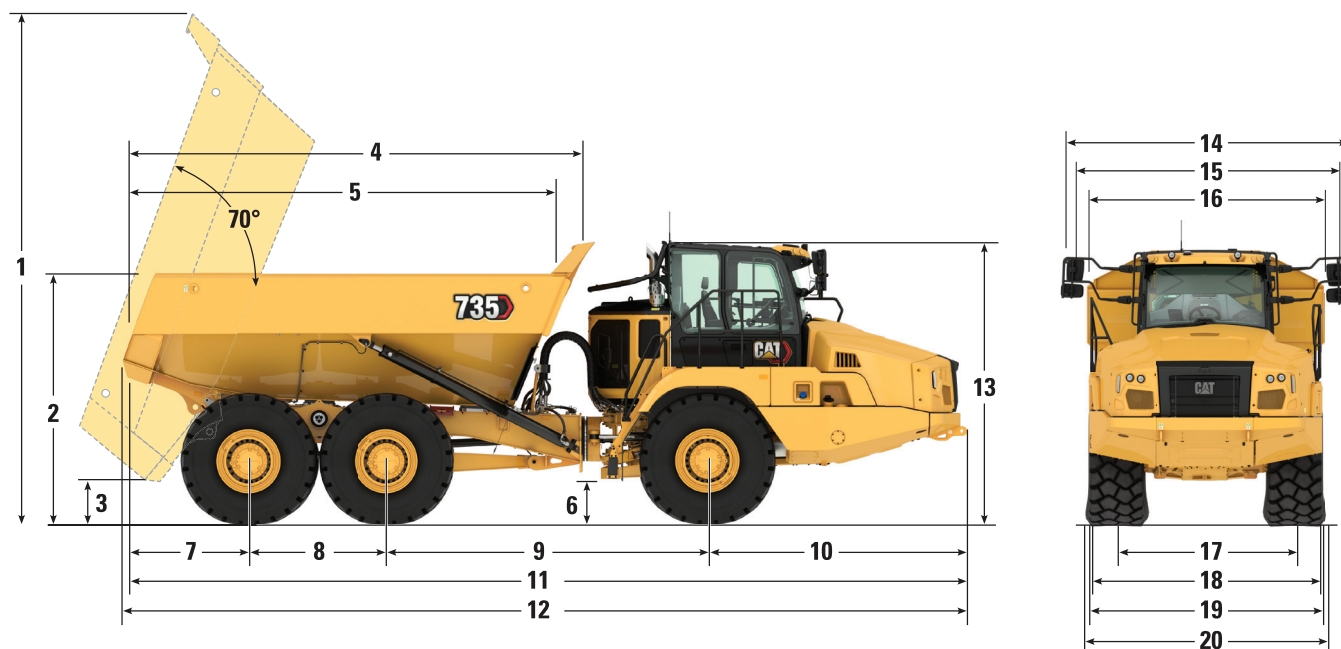
Standards

Brakes	ISO 3450:2011
Cab/Falling Objects Protective Structure (FOPS)	ISO 3449:2005 Level II
Cab/Rollover Protective Structure (ROPS)	ISO 3471:2008
Steering	ISO 5010:2019

735 Articulated Truck Specifications

Dimensions

All dimensions are approximate.



	mm	ft/in
1 Body Height Fully Tipped	6535	21' 5"
2 Load over Height	3055	10' 1"
3 Ground Clearance – Body Fully Tipped	551	1' 7"
4 Body Length	5823	19' 2"
5 Body Length Inside	5472	18' 0"
6 Ground Clearance	536	1' 8"
7 Rear Axle Center to Body Rear	1556	5' 11"
8 Mid Axle to Rear Axle Center	1700	5' 6"
9 Mid Axle to Front Axle (Centers)	3979	13' 1"
10 Front Axle Center to Machine Front	3210	10' 6"
11 Overall Length	10 445	34' 3"
12 Overall Length with Tailgate	10 573	34' 7"
13 Height Transport Position	3488	11' 5"
14 Overall Width	3676	12' 1"
15 Width over Tailgate/Width Including Tailgate	3400	11' 2"
16 Body Width	3034	10' 0"
17 Track Width	2275	7' 5"
18 Width over Tire	2950	9' 7"
19 Width over Fenders	3013	9' 9"
20 Max Laden over Tire Bulge	3082	10' 2"

735 Articulated Truck Specifications

Turning Circle

Dimensions are for machines equipped with 750/65 R25 tires.

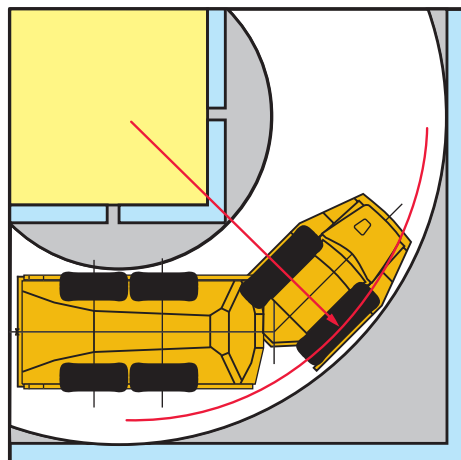
Turning Dimensions

Steer Angle – From Center Left/Right	45°	
SAE Turning Radius	7470 mm	294 in
Clearance Radius	8075 mm	318 in
Inside Radius	3793 mm	149 in
Aisle Width	5393 mm	212 in

Steering

Lock to Lock

4.75 seconds at 60 rpm



Optimal Loader/Truck Pass Matching

Hydraulic Excavators	350/352		336	
Passes	4-5		5-6	
Wheel Loaders	972/972 XE	966/966 XE	962	950
Passes	3-4	4	4-5	5

An optimum system match gives you a major productivity advantage. The 735 is an excellent match for the Cat 350/352 and 336 Hydraulic Excavators and Cat 972, 966, 962, and 950 Wheel Loaders. Having matched loading and hauling tools results in increased production and lower system costs per unit of volume moved.

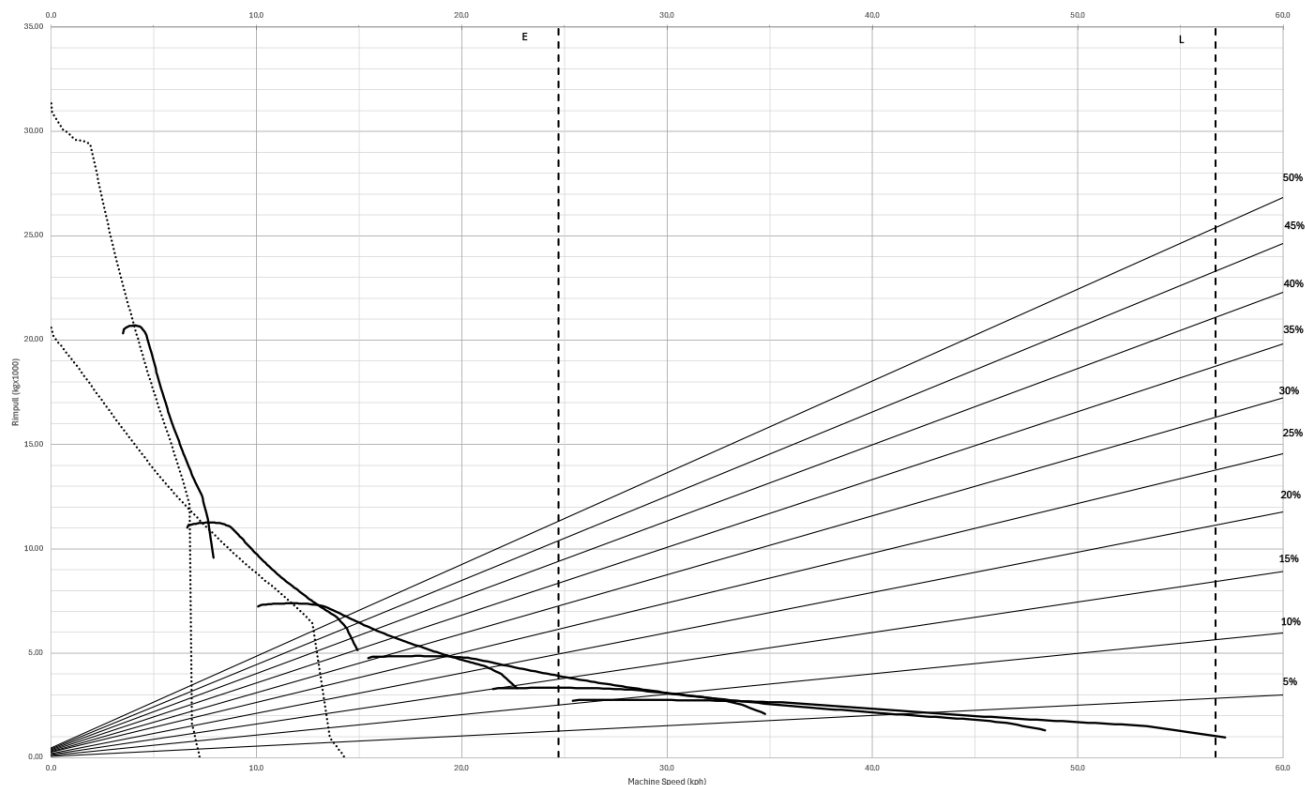
735 Articulated Truck Specifications

Gradeability/Speed/Rimpull

To determine performance, read from Gross Weight down to % Total Resistance. Total Resistance equals actual % grade plus 1% for each 10 kg/metric ton (20 lb/ton) of Rolling Resistance. From this point, read horizontally to the curve with the highest attainable speed range.

Then, go down to Maximum Speed. Usable Rimpull depends on traction available.

MACHINE MASS (KG X 1000)

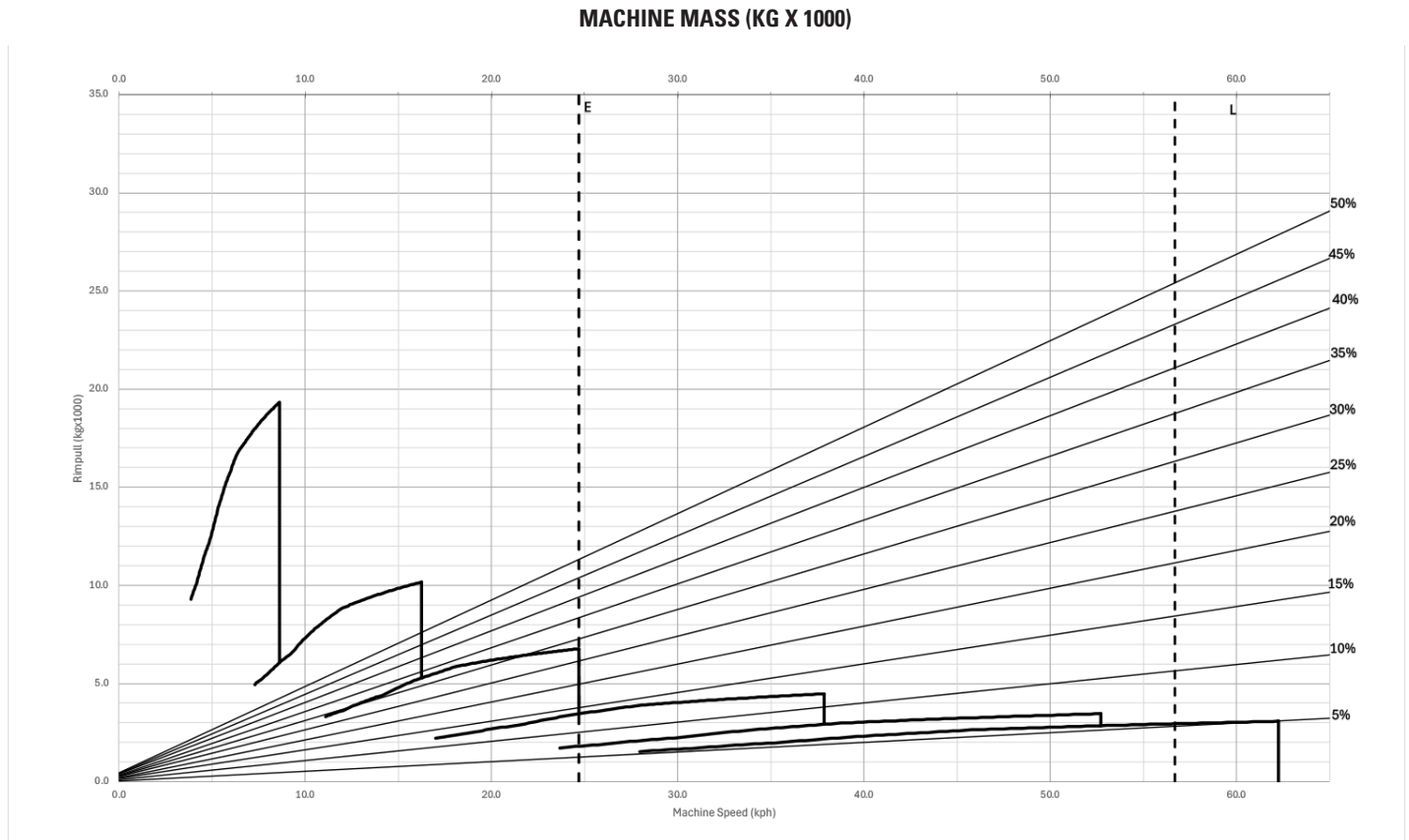


- 1C – 1st Gear (Converter Drive)
- 1F – 1st Gear (Direct Drive)
- 2C – 2nd Gear (Converter Drive)
- 2F – 2nd Gear (Direct Drive)
- 3F – 3rd Gear
- 4F – 4th Gear
- 5F – 5th Gear
- 6F – 6th Gear

- E – Empty 24 580 kg (54,190lb)
- L – Loaded 56 580 kg (124,737 lbs)
- * at sea level

Retarding Performance

To determine performance, read from Gross Weight down to % Effective Grade. Effective Grade equals actual % favorable grade plus 1% for each 10 kg/metric ton (20 lb/ton) of Rolling Resistance. From this point, read horizontally to the curve with the highest attainable speed range. Then, go down to Maximum Speed. Retarding effect on these curves represents full application of the retarder.



- 1 – 1st Gear
- 2 – 2nd Gear
- 3 – 3rd Gear
- 4 – 4th Gear
- 5 – 5th Gear
- 6 – 6th Gear

- E – Empty 24 580 kg (54,190lb)
- L – Loaded 56 580 kg (124,737 lbs)

735 Articulated Truck Standard and Optional Equipment

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
OPERATOR ENVIRONMENT			TECHNOLOGY		
Air conditioning	✓		Cat Detect with Stability Assist	✓	
Adjustable air vents	✓		Cat Payload monitoring system		✓
Combined gear selection and hoist control lever	✓		Operator Coaching		✓
10 in touchscreen display with Cat® rearview camera	✓		Product Link™ Cellular PLE643	✓	
Glass windows: front, laminated and tinted; sides and rear, toughened and tinted	✓		Product Link Dual PLE683		✓
Heater and defroster with four-speed fan	✓		VisionLink™	✓	
Infrared glass – high ambient cab		✓	ELECTRICAL AND LIGHTING		
Liquid crystal display (LCD): alert indicator, selected gear and direction, speed or auto shift, review Operation and Maintenance Manual (OMM), primary steering failure warning, seat belt warning, secondary steering failure warning, diesel particulate filter (DPF) regeneration filter, secondary steering energy source engaged, hour meter, retarder active	✓		Batteries (x2) maintenance free	✓	
Mirrors, exterior	✓		Cold weather start attachment (2 additional batteries)		✓
Mirrors, heated motorized		✓	Daylight Running Lights	✓	
Machine operation monitoring system: action lamp, engine oil pressure, primary steering system, left and right turn signal, high beam, coolant temperature, tachometer, parking brake, fuel level, transmission oil temperature, brake system, transmission hold, hoist control, hydraulic system, charging system, retarder, transmission fault, traction control system, check engine lamp	✓		LED Rear Step Lights	✓	
Radio, Bluetooth® stereo system		✓	LED Rear Work Lights		✓
Seats: operator – fully adjustable, air suspension, retractable lap belt; trainer – padded with retractable lap belt	✓		Engine block heater		✓
Seat, heated/cooled		✓	Ether start		✓
Operator seat belt, four-point		✓	Electrical system: 24-volt, 10A 24- to 12-volt converter	✓	
Secondary steering, electro hydraulic	✓		Flashing LED beacon		✓
Storage: cup holder, flask receptacle, under seat storage, door pocket, behind operator seat storage, coat hook	✓		Horn	✓	
Sun visor	✓		Lighting systems: cab interior, two head lamps, two width marker, two reversing, work light/cab access light, two stop/tail lights, front and rear direction indicators	✓	
Tilt and telescopic steering wheel	✓		Main disconnect switch	✓	
Touchscreen display incorporating the rearview camera video feed	✓		Remote starting receptacle (cables not included)	✓	
Window blinds		✓	Roof-mounted LED work lights		✓
Windows (tinted) opening side	✓		POWERTRAIN		
Windshield wiper and washer, two speed, intermittent (front)	✓		Auto shift six-speed forward and single-speed reverse transmission	✓	
Window wiper and washer, two speed (rear)	✓		Cat C13A engine	✓	
			CX31 transmission	✓	
			Differentials: standard with automatic clutched inter- and cross-axle differential locks	✓	
			Dual circuit oil immersed, enclosed brakes – all wheels	✓	
			Automatic Retarder: Engine Compression Brake and Hydraulic Brake	✓	
			Three axle, six-wheel drive	✓	
			SAFETY		
			Body Height Limiting	✓	
			Dynamic Rollover Protection	✓	
			Machine Speed Limiting	✓	
			Multi-view camera with object detect		✓
			Reverse alarm	✓	
			Rearview camera	✓	
			Rollover protective structure/falling objects protective structure (ROPS/FOPS) cab	✓	
			GUARDS		
			Crankcase	✓	
			Front dump body spill guard, integral part of fabricated body	✓	
			Radiator	✓	
			Rear window	✓	

735 Articulated Truck Standard and Optional Equipment

Standard and Optional Equipment

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

Standard Optional		Standard Optional	
OTHER STANDARD AND OPTIONAL EQUIPMENT		OTHER STANDARD AND OPTIONAL EQUIPMENT (CONTINUED)	
Auto lube installation for automatic greasing of bearings	✓	Mud flaps: wheel arch and body mounted with transportation tiebacks	✓
Bare chassis (no body) standard wheel base	✓	Scissor tailgate	✓
Bare chassis (no body) long wheel base	✓	S·O·S SM sampling valves	✓
Body liners	✓	Tires, six 750/65 R25	✓
Cold weather coolant -51°C (-60°F)	✓	Vandalism protection: lockable caps	✓
Collision Avoidance Ready*	✓	Wheel chocks	✓
Exhaust heated body	✓		
Fast fuel fill	✓		
Fuel additive, anti-waxing	✓		

*South Africa only.

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com.

Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

© 2025 Caterpillar. All Rights Reserved. CAT, CATERPILLAR, LET'S DO THE WORK, VisionLink, their respective logos, Product Link, S·O·S, "Caterpillar Corporate Yellow", the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

AEXQ3918-00 (12-2025)
Build Number: 05A
(Afr-ME, Aus-NZ,
Eurasia, Indonesia,
Pacific Islands, S Am)

