



# 745

## 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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# 745 Articulated Truck Specifications

## Engine

|                          |          |                       |
|--------------------------|----------|-----------------------|
| Engine Model             | Cat® C18 |                       |
| Gross Power (SAE J1995)  | 381 kW   | 511 hp                |
| Net Power (SAE J1349)    | 370 kW   | 496 hp                |
| Engine Power (ISO 14396) | 376 kW   | 504 hp                |
| Bore                     | 145 mm   | 5.7 in                |
| Stroke                   | 183 mm   | 7.2 in                |
| Displacement             | 18.1 L   | 1,106 in <sup>3</sup> |

- Advertised power is tested at 1,700 rpm.
- Advertised power is tested per the specified standard in effect at the time of manufacture.
- The net power advertised is the 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 348 kW (467 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 Required Below         | 3050 m    | 10,000 ft    |
| Peak Engine Torque Gross (SAE J1995:2014) | 2618 N·m  | 1,931 lbf-ft |
| Peak Engine Torque Net (SAE J1349:2011)   | 2558 N·m  | 1,887 lbf-ft |
| Peak Engine Torque Speed                  | 1,200 rpm |              |

## Weights

|               |           |           |
|---------------|-----------|-----------|
| Rated Payload | 41 tonnes | 45.2 tons |
|---------------|-----------|-----------|

## Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas.
- If equipped with R134a (Global Warming Potential = 1430), the system contains 1.1 kg (2.4 lb) of refrigerant which has a CO<sub>2</sub> equivalent of 1.716 metric tonnes (1.891 tons).

## Body Capacities

|                         |                     |                      |
|-------------------------|---------------------|----------------------|
| Heaped SAE 2:1          | 25.5 m <sup>3</sup> | 33.4 yd <sup>3</sup> |
| Struck                  | 19.9 m <sup>3</sup> | 26.0 yd <sup>3</sup> |
| Tailgate Heaped SAE 2:1 | 27.3 m <sup>3</sup> | 35.7 yd <sup>3</sup> |
| Tailgate Struck         | 20.9 m <sup>3</sup> | 27.3 yd <sup>3</sup> |

## Transmission

|           |           |          |
|-----------|-----------|----------|
| Forward 1 | 6.1 km/h  | 3.8 mph  |
| Forward 2 | 8.1 km/h  | 5.0 mph  |
| Forward 3 | 11.2 km/h | 7.0 mph  |
| Forward 4 | 14.1 km/h | 8.8 mph  |
| Forward 5 | 18.7 km/h | 11.6 mph |
| Forward 6 | 22.9 km/h | 14.2 mph |
| Forward 7 | 31.5 km/h | 19.6 mph |
| Forward 8 | 37.9 km/h | 23.5 mph |
| Forward 9 | 54.8 km/h | 34.0 mph |
| Reverse 1 | 6.4 km/h  | 4.0 mph  |
| Reverse 2 | 14.6 km/h | 9.1 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.

# 745 Articulated Truck Specifications

## Operating Weights

|                          |           |            |
|--------------------------|-----------|------------|
| Front Axle – Empty       | 19 180 kg | 42,285 lb  |
| Center Axle – Empty      | 7100 kg   | 15,653 lb  |
| Rear Axle – Empty        | 6830 kg   | 15,058 lb  |
| Total – Empty            | 33 110 kg | 72,995 lb  |
| Front Axle – Rated Load  | 5880 kg   | 12,963 lb  |
| Center Axle – Rated Load | 17 560 kg | 38,713 lb  |
| Rear Axle – Rated Load   | 17 560 kg | 38,713 lb  |
| Total – Rated Load       | 41 000 kg | 90,389 lb  |
| Front Axle – Loaded      | 25 060 kg | 55,248 lb  |
| Center Axle – Loaded     | 24 660 kg | 54,366 lb  |
| Rear Axle – Loaded       | 24 390 kg | 53,771 lb  |
| Total – Loaded           | 74 110 kg | 163,384 lb |

## Body Plate

|  |       |         |
|--|-------|---------|
| High Strength Brinell HB450 Wear Resistant Steel |       |         |
| Front  | 7 mm  | 0.28 in |
| Chute  | 14 mm | 0.55 in |
| Side   | 11 mm | 0.43 in |
| Base   | 14 mm | 0.55 in |

## Body Hoist

|                   |            |
|-------------------|------------|
| Raise (manual)    | 12 seconds |
| Raise (automatic) | 13 seconds |
| Lower (manual)    | 10 seconds |
| Lower (automatic) | 10 seconds |

## Service Refill Capacities

|   |       |           |
|---|-------|-----------|
| Fuel Tank                               | 550 L | 145.3 gal |
| Cooling System                          | 90 L  | 23.7 gal  |
| Brake Cooling Tank                      | 67 L  | 17.7 gal  |
| Steering/Hoist Hydraulic System         | 140 L | 36.9 gal  |
| Engine Crankcase                        | 52 L  | 13.7 gal  |
| Transmission/Output transfer gear (OTG) | 75 L  | 19.8 gal  |
| Final Drives (each)                     | 5 L   | 1.3 gal   |
| Axles (each)                            | 60 L  | 15.8 gal  |

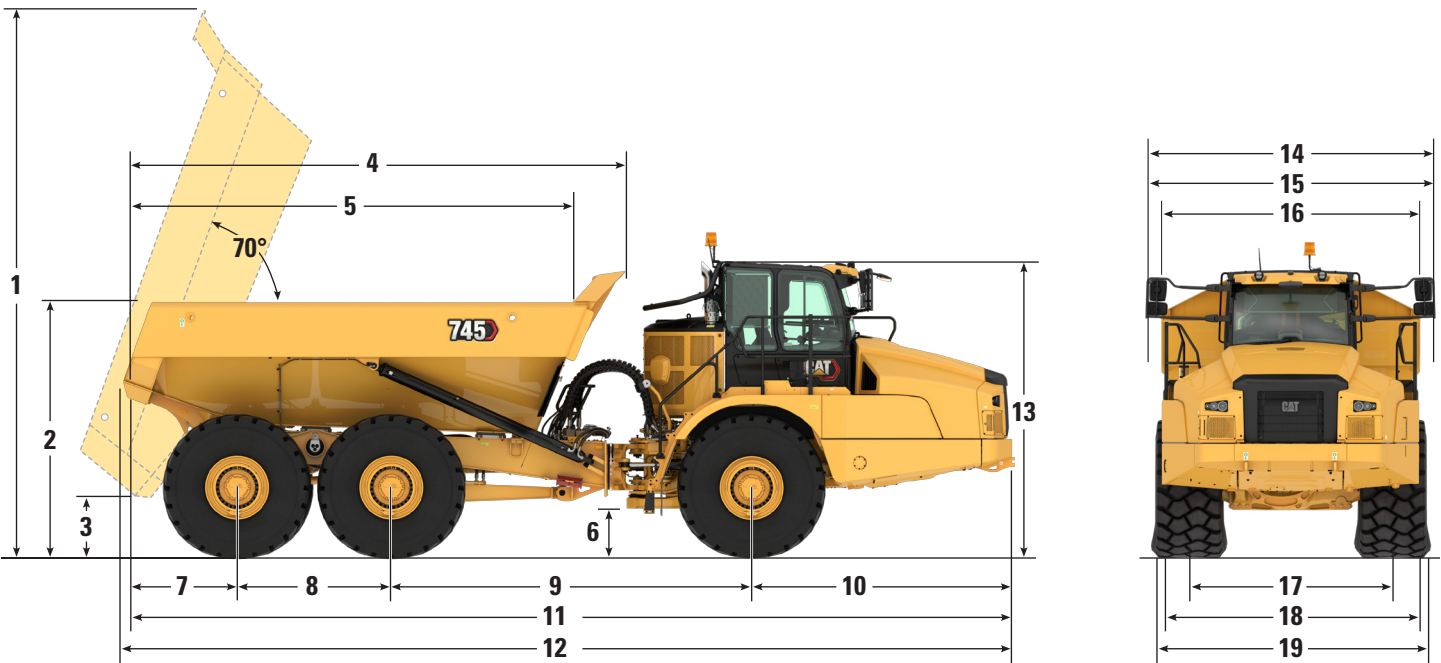
## Standards

|   |                        |
|---|------------------------|
| 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          |

# 745 Articulated Truck Specifications

## Dimensions

All dimensions are approximate.



|   | mm     | ft/in  |
|---|--------|--------|
| 1 Body Height Fully Tipped                      | 7288   | 24'0"  |
| 2 Load over Height                              | 3261   | 10'7"  |
| 3 Ground Clearance – Body Fully Tipped          | 779    | 2'7"   |
| 4 Body Length                                   | 6402   | 21'0"  |
| 5 Body Length Inside                            | 5929   | 19'4"  |
| 6 Ground Clearance                              | 590    | 1'11"  |
| 7 Rear Axle Center to Body Rear                 | 1458   | 4'8"   |
| 8 Mid Axle to Rear Axle Center                  | 1966   | 6'5"   |
| 9 Mid Axle to Front Axle (Centers)              | 4590   | 15'1"  |
| 10 Front Axle Center to Machine Front           | 3418   | 11'3"  |
| 11 Overall Length                               | 11 432 | 37'6"  |
| 12 Overall Length with Tailgate                 | 11 559 | 37'11" |
| 13 Height Transport Position                    | 3762   | 12'4"  |
| 14 Overall Width                                | 3801   | 12'6"  |
| 15 Width over Tailgate/Width Including Tailgate | 3774   | 12'5"  |
| 16 Body Width                                   | 3422   | 11'3"  |
| 17 Track Width                                  | 2687   | 8'10"  |
| 18 Width over Fenders                           | 3370   | 11'1"  |
| 19 Max Laden over Tire Bulge                    | 3500   | 11'6"  |

# 745 Articulated Truck Specifications

## Turning Circle

Dimensions are for machines equipped with 29.5R25 tires.

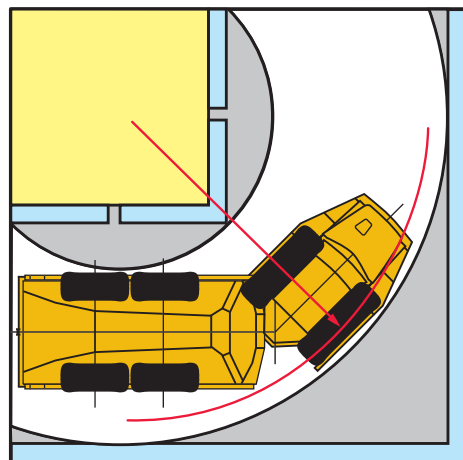
### Turning Dimensions

|                                      |         |        |
|--------------------------------------|---------|--------|
| Steer Angle – From Center Left/Right | 45°     |        |
| SAE Turning Radius                   | 8625 mm | 340 in |
| Clearance Radius                     | 9082 mm | 356 in |
| Inside Radius                        | 4413 mm | 174 in |
| Aisle Width                          | 5917 mm | 233 in |

## Steering

Lock to Lock

4.8 seconds @ 60 rpm



## Optimal Loader/Truck Pass Matching

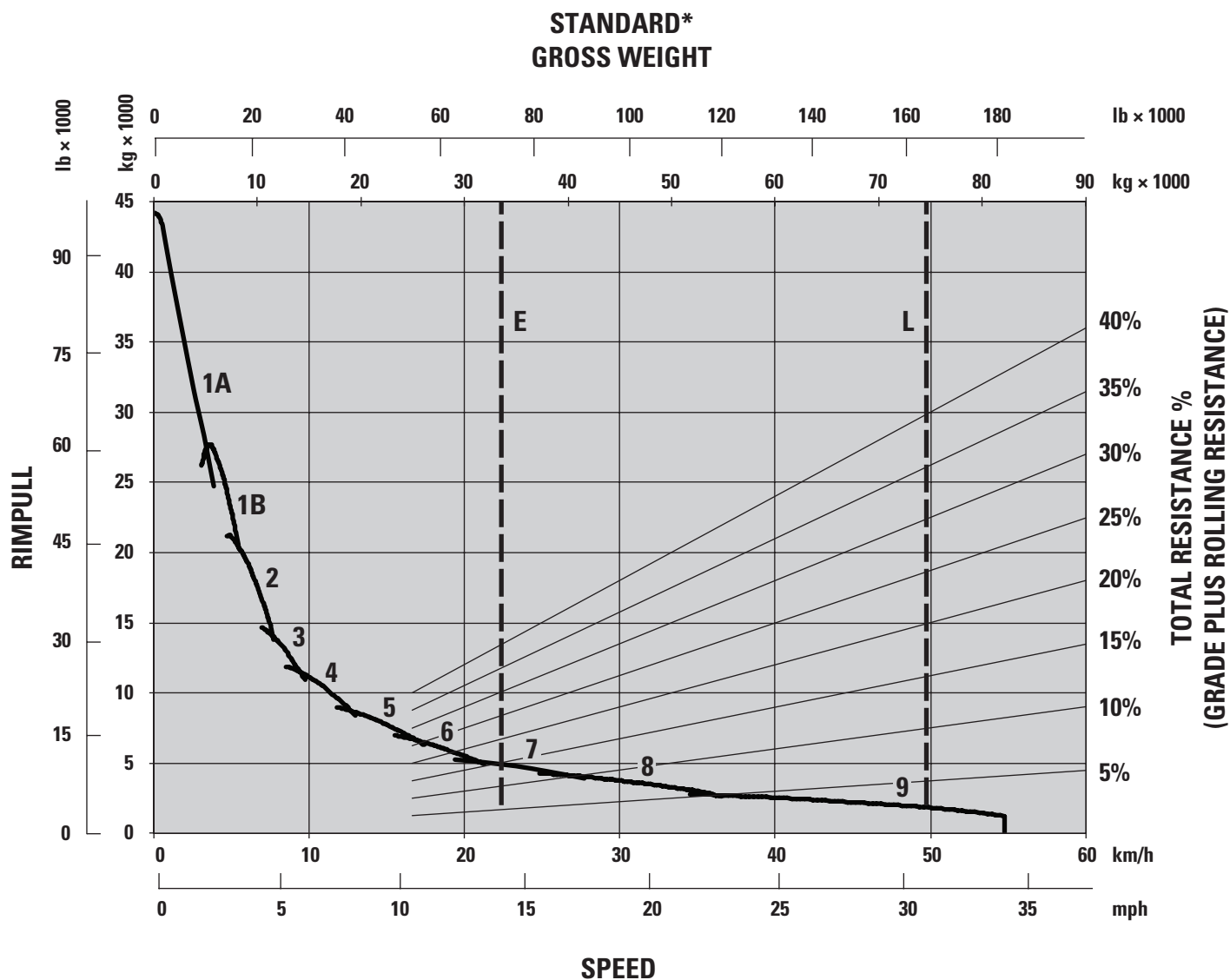
|                             |            |            |            |
|-----------------------------|------------|------------|------------|
| <b>Hydraulic Excavators</b> | <b>390</b> | <b>374</b> |            |
| Passes                      | 4          | 5          |            |
| <b>Wheel Loaders</b>        | <b>982</b> | <b>980</b> | <b>972</b> |
| Passes                      | 4          | 4-5        | 4-5        |

An optimum system match gives you a major productivity advantage. Having matched loading and hauling tools results in increased production and lower system costs per unit of volume moved.

# 745 Articulated Truck Specifications

## Gradeability/Speed/Rimpull

To determine performance, read from gross weight down to percent total resistance. Total resistance equals actual percent 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.

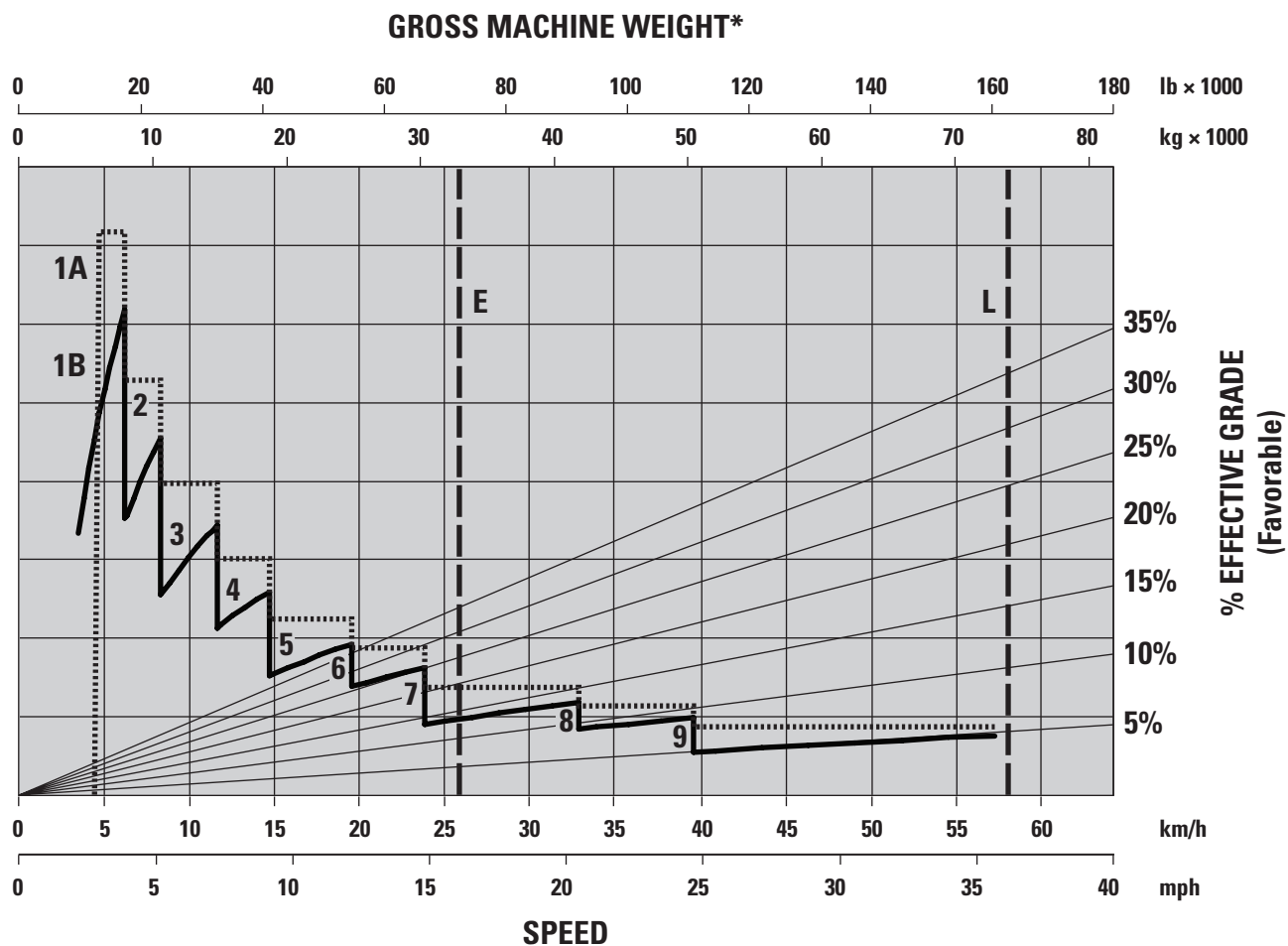


- 1A – 1st Gear (Converter Drive)
- 1B – 1st Gear (Direct Drive)
- 2 – 2nd Gear
- 3 – 3rd Gear
- 4 – 4th Gear
- 5 – 5th Gear
- 6 – 6th Gear
- 7 – 7th Gear
- 8 – 8th Gear
- 9 – 9th Gear

- E – Empty 33 110 kg (72,995 lb)
- L – Loaded 74 110 kg (163 385 lb)
- \* at sea level

## Retarding Performance

To determine performance, read from gross weight down to percent effective grade. Effective grade equals actual percent 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.



# 745 Articulated Truck Standard & Optional Equipment

## Standard and Optional Equipment

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

|  | Standard | Optional |   | Standard | Optional |
|--|----------|----------|---|----------|----------|
| <b>OPERATOR ENVIRONMENT</b>  |          |          | <b>TECHNOLOGY</b>   |          |          |
| Air conditioning   | ✓        |          | Cat® Detect with Stability Assist   | ✓        |          |
| Adjustable air vents   | ✓        |          | Cat Payload monitoring system   |          | ✓        |
| Combined gear selection and hoist control lever  | ✓        |          | Machine security system (MSS)   |          | ✓        |
| Glass windows: front, laminated and tinted; sides and rear, toughened and tinted   | ✓        |          | Product Link Cellular PLE643  | ✓        |          |
| Heater and defroster with four-speed fan   | ✓        |          | Product Link Dual PLE683  |          | ✓        |
| Infrared glass – high ambient cab  |          | ✓        | <b>ELECTRICAL AND LIGHTING</b>  |          |          |
| Liquid crystal display (LCD): alert indicator, selected gear and direction, speed or auto shift, operation and maintenance manual (OMM), primary steering failure (warning), seat belt warning, secondary steering failure, diesel particulate filter (DPF) regeneration filter, secondary steering energy source engaged, hour meter, retarder active                             | ✓        |          | Batteries (two) maintenance free  | ✓        |          |
| Mirrors, exterior  | ✓        |          | Cold weather start attachment   |          | ✓        |
| Mirrors, heated and motorized  |          | ✓        | Engine block heater   |          | ✓        |
| 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, transmission fault, traction control system, check engine lamp | ✓        |          | Ether start   |          | ✓        |
| Operator seat belt, four-point   |          | ✓        | Electrical system: 24-volt, 5A 24- to 12-volt converter   | ✓        |          |
| Radio, Bluetooth® stereo system  |          | ✓        | Flashing LED beacon   |          | ✓        |
| Seat, heated/cooled  |          | ✓        | Horn  | ✓        |          |
| Seats: operator – fully adjustable, air suspension, retractable lap belt; trainer – padded with retractable lap belt   | ✓        |          | 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 | ✓        |          |
| Secondary steering – electro hydraulic   | ✓        |          | Main disconnect switch  | ✓        |          |
| Storage: cup holder, flask receptacle (under the secondary seat), under seat storage, door pocket, behind seat storage, coat hook  | ✓        |          | Remote starting receptacle (cables not included)  | ✓        |          |
| Sun visor  | ✓        |          | Roof mounted LED work lights  |          | ✓        |
| Tilt and telescopic steering wheel   | ✓        |          | <b>POWERTRAIN</b>   |          |          |
| Touchscreen display incorporating the rearview camera video feed   | ✓        |          | Auto shift nine-speed forward and two-speed reverse transmission  | ✓        |          |
| Window blinds  |          | ✓        | Cat C18 engine  | ✓        |          |
| Window wiper and washer, two speed (rear)  |          | ✓        | CX38 transmission   | ✓        |          |
| Windows (tinted) opening both sides  | ✓        |          | Differentials: standard with automatic clutched inter- and cross-axle differential locks  | ✓        |          |
| Windshield wiper and washer, two speed, intermittent (front)   | ✓        |          | Dual circuit oil immersed, enclosed brakes – all wheels   | ✓        |          |
|  |          |          | Retarder: engine compression brake and hydraulic  | ✓        |          |
|  |          |          | Three axle, six-wheel drive   | ✓        |          |
|  |          |          | <b>SAFETY</b>   |          |          |
|  |          |          | Rearview camera   | ✓        |          |
|  |          |          | Reverse alarm   | ✓        |          |
|  |          |          | Rollover protective structure/falling objects protective structure (ROPS/FOPS) cab  | ✓        |          |
|  |          |          | <b>GUARDS</b>   |          |          |
|  |          |          | Crankcase   | ✓        |          |
|  |          |          | Front dump body spill guard, integral part of fabricated body   | ✓        |          |
|  |          |          | Radiator  | ✓        |          |
|  |          |          | Rear window   | ✓        |          |



# 745 Articulated Truck Standard & Optional Equipment

## Standard and Optional Equipment

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

|   | Standard | Optional |   | Standard | Optional |
|---|----------|----------|---|----------|----------|
| <b>OTHER</b>  |          |          | <b>OTHER (CONTINUED)</b>  |          |          |
| Auto lube installation for automatic greasing of bearings |          | ✓        | Mud flaps: wheel arch and body mounted with transportation tiebacks | ✓        |          |
| Bare chassis (no body) long wheel base                    |          | ✓        | Scissor tailgate  |          | ✓        |
| Bare chassis (no body) standard wheel base                |          | ✓        | S·O·S <sup>SM</sup> sampling valves                                 | ✓        |          |
| Body liners   |          | ✓        | Sound suppression (standard in some countries*)                     | ✓        |          |
| Cold weather coolant -51°C (-60°F)                        |          | ✓        | Tires, six 29.5 R25   | ✓        |          |
| Exhaust heated body                                       |          | ✓        | Vandalism protection: lockable caps                                 | ✓        |          |
| Fast fuel fill  |          | ✓        | Wheel chocks  |          | ✓        |
| Fuel additive – anti-waxing                               |          | ✓        | Tailgate ready  |          | ✓        |

*\*EFTA countries are EU countries plus Iceland, Norway, Lichtenstein, Switzerland, Türkiye and UK.*



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).

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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