Articulated Truck

Engine

<table>
<thead>
<tr>
<th>Engine Model –</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat® C18 ACERT™</td>
</tr>
<tr>
<td>Equivalent to U.S. EPA Tier 2 and EU Stage II</td>
</tr>
<tr>
<td>Gross Power – SAE J1995</td>
</tr>
<tr>
<td>381 kW</td>
</tr>
<tr>
<td>Net Power – ISO 14396</td>
</tr>
<tr>
<td>376 kW</td>
</tr>
</tbody>
</table>

Weights

<table>
<thead>
<tr>
<th>Rated Payload</th>
</tr>
</thead>
<tbody>
<tr>
<td>41 tonnes</td>
</tr>
</tbody>
</table>

Body Capacities

<table>
<thead>
<tr>
<th>Heaped SAE 2:1</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 m³</td>
</tr>
</tbody>
</table>
745 Articulated Truck Key Features

- All new world class cab and operator environment
- Combined hoist/transmission lever
- Economy mode
- Cat Detect with Stability Assist
- Automatic Retarder Control (ARC)
- Advanced Productivity Electronic Control Strategy (APECS)
- Advanced Automatic Traction Control (AATC)
- New Touch Screen Display
- Assisted Hoisting Control
- Hill Assist
- Waiting Brake
- Machine Speed Limiting
- Cat Connect – Cat Production Measurement, Product Link™/VisionLink®

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The Cat 745 with a 25 m³ (32.7 yd³) 41 tonnes (45.2 tons) capacity brings a new level of operator comfort and features to the market in addition to the durability, high productivity and lower operating costs Cat Articulated Trucks are known for.

The all-new operator cabin is a leap into the next generation for Articulated Trucks, providing our operators the best place to help build the future.
Ease of Operation
Designed for operators, by operators
Control Layout
The new cab is designed to make all aspects of machine operation as simple as possible for every operator. The controls and gauges are easy to read and straightforward to use, allowing the operator to focus on safe machine operation while maintaining productivity.

Combined Hoist/Transmission Lever
Unique to Cat Articulated Trucks, the combined hoist/transmission lever provides easy, intuitive control of gears and hoist functions. The new assisted hoist system gives improved control to the operator, allowing for faster cycle times and less control movements.

Offering both automatic and manual options, the system gives operators flexibility to choose their preferred method of control. When using the automatic system to tip a load, the machine neutralizes the transmission, applies the service brakes and hoists the body to maximum angle at the required engine rpm. When lowering the body this feature prevents a hard stop onto frame, eliminating shock loads and potential damage. Automatic use can reduce operator interactions by up to 50 percent depending on the site tipping procedure.

Also incorporated into the lever are waiting brake, transmission hold, machine speed limiter and parking brake selection. This gives operating a more automotive feel. No separate switch is now needed; you just push the lever into park.

Dashboard
The newly styled and updated dash puts all controls within easy reach of the operator. It features LED illuminated rocker switches for easy use in all operating conditions. The fit and finish delivers an automotive feel with the industrial strength you would expect from Caterpillar.

Touch Screen Display
The updated touch screen dash mounted display allows the operator to monitor and adjust various levels of machine performance and condition, as well as machine warning categories. These include configuration settings, operator and machine totals, service information, various machine status parameters, machine payload information (when fitted), stability assist, and the video feed from the rearview camera.

Bluetooth® Stereo Connectivity
Make and receive hands free calls via the optional Bluetooth equipped stereo, with clearer quality due to the quieter cab and upgraded speakers.
Operator Environment
Improved productivity with a comfortable and confident operator

Spacious Two-Person Cab
The large open cab with increased headroom, offers a comfortable working space for both the operator and an additional person (e.g. training purposes). The second seat is fully padded with a backrest and a wide, retractable seat belt for a secure and comfortable ride. Positioned adjacent to the operator, the seat gives the trainer a clear view of the instrument panel, controls and the road ahead.

Increased and Improved Storage
A new large side storage box is heated or cooled by the HVAC system depending on operator preference. Twin cup holders and multiple storage spaces have also been introduced to help give operators an uncluttered workspace.

Air Suspension Seat
The new air suspension seat gives an increased range of adjustments over previous offerings including fore/aft isolation, which dramatically reduces horizontal vibrations and jolts.

This provides a greater number of operators with the ability to tailor their seating position for a more comfortable working day. The seat can be selected with variable climate control as an option.

Cab Atmosphere
The improved climate control system gives you the option to maintain the temperature desired by the operator. The addition of Infra Red Reflective (IRR) glass and integrated window blinds helps guard against the effects of bright sunlight.

A reduction to in-cab noise (–7 dB from previous model) contributes to a more comfortable working environment for the operator, all day, every day.
Every Cat engine equivalent to Tier 2/Stage II with ACERT Technology is equipped with a combination of proven electronic, fuel, air and aftertreatment components. The right technologies fine-tuned for the right applications result in:

- All new Eco mode, which can provide an average reduction in fuel consumption of 5 percent over normal operation.
- High machine performance across all applications.
- Enhanced reliability through commonality and simplicity of design.
- Maximized uptime and reduced cost with world-class support from the Cat dealer network.
- Durable designs with long life to overhaul.
- Delivering better fuel economy with minimized maintenance costs while providing the same great power and response.

**Advanced MEUI™-C Injector**

Advanced MEUI-C injector platforms deliver increased injection pressures and more precise fuel rates. These durable injectors enhance responsiveness while controlling soot.

**Innovative Air Management**

Cat engines feature innovative air-management systems that optimize airflow and enhance power, efficiency and reliability.

**Engine Compression Brake**

The engine compression brake improves retarding response and increases retarding power for controlled descent of grades.
Transmission
Class leading transmission technology

The Cat High Density Power Shift (HDPS) nine-speed forward, two-speed reverse transmission, designed specifically for Articulated Trucks, features Advanced Productivity Electronic Control Strategy (APECs) and Electronic Clutch Pressure Control (ECPC) that deliver smooth gear changes with improved acceleration and higher productivity.

Speed hold/limiting function allows the machine speed to be limited in 1 km/h or 1 mph steps to conform to site speed restrictions.

Gearshifts are configured to maintain direct drive lock-up, and reduce dropping into converter drive. Decreasing the use of torque converter drive aids in maintaining ground speed and gradeability.

Variable gearshift points are used based on the operating conditions, which also aid in maintaining ground speed during gear changes on grades.

Torque Converter
Large diameter torque converter, configured for off-highway applications, allows the higher engine power to be transmitted more efficiently to the lower power train.
Automatic Features
Ease of use, improved performance

Advanced Automatic Traction Control (AATC)
Proactive application of the inter- and cross-axle differential locks is ‘on-the-go’ and fully automatic. The operator does not have to think about when and where to engage either diff lock. Sensors monitor the machine and wheel speeds, enabling instant response in high rolling resistance conditions. Operation is seamless and smooth, eliminating wheel slip for maximum traction and therefore productivity.

Clutches are automatically disengaged when ground conditions allow, maximizing efficiency when steering or when on uneven ground.

AATC reduces tire and driveline abuse, eliminating lost machine efficiencies caused by improper manual operation of the differential clutches, and reducing the cost of premature tire replacement.

Automatic Retarder Control (ARC)
In automatic mode, use of the retarder is much easier for the operator. As with AATC a number of machine operating aspects are monitored, and if required the engine compression brake is engaged automatically. The system can help towards eliminating engine overspeed, improving safe machine operation and reducing cycle times, yet still having the flexibility of manual control if needed.

Assisted Dumping System
Tipping of the dump body can be done automatically with the new Assisted Hoisting Control. Flick the new body raise/lower switch and the machine will apply the service brakes, switch the transmission to neutral and raise the body at the required engine rpm. Lowering the dump body is done the same way, flick the switch and the machine will lower the body and place it in float. Two flicks, one up, one down.
 Suspension and Braking
Performance with comfort

Front Suspension
The three-point front suspension design provides the mechanism required to travel at speed over rough terrain and softens impact loads on structures and components. Large bore, low-pressure cylinders are purposely designed for Articulated Truck applications and offer a soft, smooth ride for the operator.

A-Frame Construction
The front suspension uses an oscillating A-frame with a lateral tie rod to control axle sideways movement and stability.

Rear Suspension
The rear suspension features a walking beam with Caterpillar designed rear suspension mounts, which have long life and provide a reliable, and stable ride for excellent load retention.

All Axle Enclosed Wet Brakes
All axle enclosed wet brakes provide high retarding and braking performance with improved holding on grades.

Hill Assist
Hill Assist reduces potential ‘roll-back’ on grades. If an operator stops the machine on a grade, when taking his foot off the service brake pedal, the machine will automatically hold the service brakes on for a number of seconds to prevent the machine from rolling backwards.

Waiting Brake
Waiting brake applies the service brakes when neutral gear is selected, allowing quick and easy control of the machine at the load or dump area.
**Front Frame**
The front frame design features a large box section and wide, stiff frame beams to handle torque loads. The divergent frame design decreases stress in the hitch area and optimizes suspension geometry. The frame design makes maximum use of robotic welding for increased durability.

**Rear Frame**
Twin-box construction minimizes stress concentrations and provides low weight with long service life.

**Articulating/Oscillating Hitch**
The articulating hitch provides the truck with steering articulation, and the oscillation ensures all-wheel ground contact in rough terrain.

**Hitch Construction**
Field proven two-piece construction features a durable cast steel head bolted to a hard wearing forged steel tube.

**Dump Body Design**
The 745 has a large target area to provide consistently high load-carrying capacity. Body design aids in clean material discharge, maximizing production and avoiding carry-back.

**Output Transfer Gear (OTG)**
The output transfer gear distributes drive to the tractor and trailer and includes a wet clutch differential lock for optimum traction in poor underfoot conditions.

**Service Brakes**
The full power hydraulic system actuates enclosed, oil immersed, multi disc, multi plate brakes with independent front and rear circuits and accumulators. This dual-circuit, all wheel braking system provides the braking performance required to support maximum productivity.

**Parking Brake**
The parking brake is located on the center axle in an elevated position, it is spring applied and hydraulically released.
Integrated Technologies
Monitor, manage, and enhance job site operations

LINK Technologies
LINK technologies, like Product Link wirelessly connect you to your equipment, giving you valuable insight into how your machine or fleet is performing. The system tracks location, hours, fuel usage, productivity, idle time, and diagnostic codes through the online VisionLink user interface so you can make timely, fact-based decisions to maximize efficiency, improve productivity, and lower costs.

PAYLOAD Technologies
PAYLOAD technologies like Cat Production Measurement bring payload weighing to the cab to help optimize job site efficiency and productivity. Operators can view real-time load weights on the integrated display and know precisely when target is achieved, while cab-mounted external payload lights on all four corners, signal the loader operator when to stop, reducing machine overloading. Operators can track daily productivity from the cab, with quick access to truck payload weights, loads and cycle counts, and daily totals; or remotely via LINK technologies.

Cat Detect with Stability Assist
Cat Detect with Stability Assist warns the operator if machine is approaching an unsafe angle during operation; when driving and tipping. If using the assisted hoist, the machine will stop hoisting the body and give an audible and visual warning. The system monitors angles of tractor, trailer and grade independently. This increases operator awareness of machine stability during operation. All tractor and/or trailer rollover events are logged and reported via VisionLink.

Cat Connect makes smart use of technology and services to improve your job site efficiency. Using the data from technology-equipped machines, you’ll get more information and insight into your equipment and operations than ever before.

Cat Connect technologies offer improvements in these key areas:

- **Equipment Management** — increase uptime and reduce operating costs.
- **Productivity** — monitor production and manage job site efficiency.
- **Safety** — enhance job site awareness to keep your people and equipment safe.
Long Service Intervals
Changes to oil change intervals, volumes and the type of oil required will help lower maintenance costs and machine downtime.

Lubrication Points
Lubrication points are grouped in the hitch area for ease of servicing. Universal joints are lubed for life, eliminating any maintenance. An Autolube system is also optional and now includes alerts via Product Link for low grease levels.

Service Points
Service points are mounted on the left side of the engine under the electrically raised hood:
- Engine dipstick and fill cap
- Transmission dipstick and fill cap
- Air, fuel water separator and fuel filters
- Electrically operated fuel-priming pump
- Coolant level indicator and fill cap are outside the cab

Radiator
The radiator package is located behind the cab, which provides protection from frontal impacts and offers easy access to the inlet and outlet sides of the radiator.

Extended Life Coolant
Extended Life Coolant extends the change interval and improves component life by reducing aluminum corrosion.

Electrical Service Center
Located inside the cab, this service center provides a power port, diagnostic connector and Cat Data Link connector.

Cat Data Link Connector
The Cat Data Link connector provides a plug-in using a laptop with Electronic Technician (ET) software.

Service Access
The cab tilts to the side to provide easy access underneath, which simplifies access to the transmission, drive shafts and hydraulic pumps. Machine electrical and hydraulic interfaces are located on the external right-hand side of the cab, behind a removable body panel providing easy access.
Complete Customer Support
A commitment to your success

Selection
Make comparisons of the machines you are considering before you buy. Your Cat dealer can help.

Purchase
Consider the resale value; compare productivity and day-to-day operating costs and fuel consumption.

Operation
For the best operating techniques to increase productivity and your profit, turn to your Cat dealer for the latest training literature and trained staff.

Maintenance
Repair option programs guarantee the cost of repairs up front. Diagnostic programs such as S-O-S™ and Technical Analysis help you avoid unscheduled repairs.

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

Product Support
Your local Cat dealership will be with you every step of the way with its unsurpassed worldwide parts support, trained technicians and customer support agreements.

cat.com
For more complete information on Cat products, dealer services and industry solutions, visit us on the web at www.cat.com.
All Cat Articulated Trucks are designed to maximize efficiency and productivity while conserving natural resources.

**Oil Volumes**
The amount of both hydraulic and engine oil required has been lowered, reducing waste oil disposal.

**Recycle Waste**
The Caterpillar Design, Manufacturing, Assembly and Test Site at Peterlee in England recycle 98 percent of all waste produced with zero waste to landfill.

**Second Life**
Cat Articulated Trucks are fully supported by the Cat Reman Service, providing same-as-new performance and reliability at a fraction of the cost of new parts, while reducing the negative impact on the environment.
Safety
Designed into every machine

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

Safety Features
- Additional mirror for front of machine visibility
- Body raised visual indicator
- Cab integral Roll Over Protection System (ROPS) and Falling Object Protection System (FOPS)
- Cab mounted, wide angled, folding mirrors
- Cat Detect with Stability Assist
- Electro-hydraulic secondary steering system automatically activates in forward/reverse or when stationary if low pressure is sensed. Can be manually selected for machine recovery purposes.
- Extensive handrails
- External electrical system disconnect switch for easy access from outside of the machine
- Fire extinguisher in-cab mounting point
- Fully raised body locking pin
- Ground level external engine fuel cut-off switch provides easy access outside of the machine
- Heated mirrors (optional)
- In-cab emergency brake switch
- Internal and external grab handles
- LED-flashing beacon (optional)
- Maximum speed limiter
- Multiple camera compatible
- New access lights
- Operator presence detection (prevents gear engagement when operator is not seated)
- Rearview camera system is fitted as standard. The video feed is shown on the touch screen display when reverse gear is selected. It can also be enabled to show at all times if required.
- Reversing indicator
- Seat belt in use indicator (four-point seat belt available as an option)
- Slip resistant walkways – punched steel plate
- The parking brake functions are spring applied and hydraulic released
### Engine Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Model</td>
<td>Cat C18 ACERT</td>
</tr>
<tr>
<td>Gross Power – SAE J1995</td>
<td>381 kW  511 hp</td>
</tr>
<tr>
<td>Net Power – SAE J1349</td>
<td>370 kW  496 hp</td>
</tr>
<tr>
<td>Net Power – ISO 14396</td>
<td>376 kW  504 hp</td>
</tr>
<tr>
<td>Bore</td>
<td>145 mm  5.7 in</td>
</tr>
<tr>
<td>Stroke</td>
<td>183 mm  7.2 in</td>
</tr>
<tr>
<td>Displacement</td>
<td>18.1 L  1,106 in³</td>
</tr>
</tbody>
</table>

- The power ratings apply at rated speed of 1,700 rpm when tested under the conditions for the specified standard.
- 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.
- Equivalent to Tier 2/Stage II.

### Body Capacities

<table>
<thead>
<tr>
<th>Capacity Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heaped SAE 2:1</td>
<td>25 m³ 32.7 yd³</td>
</tr>
<tr>
<td>Struck</td>
<td>18.5 m³ 24.2 yd³</td>
</tr>
<tr>
<td>Tailgate Heaped SAE 2:1</td>
<td>26.5 m³ 34.7 yd³</td>
</tr>
<tr>
<td>Tailgate Struck</td>
<td>19.5 m³ 25.5 yd³</td>
</tr>
</tbody>
</table>

### Transmission

<table>
<thead>
<tr>
<th>Speed Type</th>
<th>Speed (km/h)</th>
<th>Speed (mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward 1</td>
<td>6.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Forward 2</td>
<td>8.1</td>
<td>5</td>
</tr>
<tr>
<td>Forward 3</td>
<td>11.2</td>
<td>7</td>
</tr>
<tr>
<td>Forward 4</td>
<td>14.1</td>
<td>8.8</td>
</tr>
<tr>
<td>Forward 5</td>
<td>18.7</td>
<td>11.6</td>
</tr>
<tr>
<td>Forward 6</td>
<td>22.9</td>
<td>14.2</td>
</tr>
<tr>
<td>Forward 7</td>
<td>31.5</td>
<td>19.6</td>
</tr>
<tr>
<td>Forward 8</td>
<td>37.9</td>
<td>23.5</td>
</tr>
<tr>
<td>Forward 9</td>
<td>54.8</td>
<td>34</td>
</tr>
<tr>
<td>Reverse 1</td>
<td>6.4</td>
<td>4</td>
</tr>
<tr>
<td>Reverse 2</td>
<td>14.6</td>
<td>9.1</td>
</tr>
</tbody>
</table>

### Sound Levels

<table>
<thead>
<tr>
<th>Environment</th>
<th>Sound Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Cab</td>
<td>72 dB(A)</td>
</tr>
</tbody>
</table>

- The operator sound exposure Leq (equivalent sound pressure level) measured according to the work cycle procedures specified in ANSI/SAE J1166 OCT98 is 76 dB(A), for the cab offered by Caterpillar, when properly installed and maintained and tested with the doors and windows closed.
- Hearing protection may be needed when operating with an open operator station and cab (when not properly maintained or doors/windows open) for extended periods or in noisy environments.

### Weights

<table>
<thead>
<tr>
<th>Payload Type</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Payload</td>
<td>41 tonnes 45.2 tons</td>
</tr>
</tbody>
</table>
### Operating Weights

<table>
<thead>
<tr>
<th></th>
<th>Front Axle – Empty</th>
<th>Center Axle – Empty</th>
<th>Rear Axle – Empty</th>
<th>Total – Empty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19 161 kg (42,243 lb)</td>
<td>7022 kg (15,481 lb)</td>
<td>6760 kg (14,903 lb)</td>
<td>32 943 kg (72,627 lb)</td>
</tr>
<tr>
<td>Fuel Tank</td>
<td>550 L (145.3 gal)</td>
<td>DEF Tank</td>
<td>25 L (5.3 gal)</td>
<td></td>
</tr>
<tr>
<td>Cooling System</td>
<td>90 L (23.7 gal)</td>
<td>Brake Cooling Tank</td>
<td>67 L (17.69 gal)</td>
<td></td>
</tr>
<tr>
<td>Steering/Hoist</td>
<td>140 L (36.9 gal)</td>
<td>Engine Crankcase</td>
<td>52 L (13.7 gal)</td>
<td></td>
</tr>
<tr>
<td>Final Drives (each)</td>
<td>5 L (1.3 gal)</td>
<td>Transmission/OTG</td>
<td>75 L (19.8 gal)</td>
<td></td>
</tr>
<tr>
<td>Axles (each)</td>
<td>60 L (15.8 gal)</td>
<td>Brakes</td>
<td>ISO 3450 – 2011</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High Strength Brinell HB450 Wear Resistant Steel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Front: 7 mm (0.28 in)</td>
<td>Chute: 14 mm (0.55 in)</td>
<td>Side: 11 mm (0.43 in)</td>
<td>Base: 14 mm (0.55 in)</td>
</tr>
<tr>
<td></td>
<td>12 seconds</td>
<td>13 seconds</td>
<td>10 seconds</td>
<td>10 seconds</td>
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</table>

### Service Refill Capacities

<table>
<thead>
<tr>
<th></th>
<th>Fuel Tank</th>
<th>DEF Tank</th>
<th>Cooling System</th>
<th>Brake Cooling Tank</th>
<th>Steering/Hoist Hydraulic System</th>
<th>Engine Crankcase</th>
<th>Transmission/OTG</th>
<th>Final Drives (each)</th>
<th>Axles (each)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>550 L</td>
<td>25 L</td>
<td>90 L</td>
<td>67 L</td>
<td>140 L</td>
<td>52 L</td>
<td>75 L</td>
<td>5 L</td>
<td>60 L</td>
</tr>
<tr>
<td></td>
<td>145.3 gal</td>
<td>5.3 gal</td>
<td>23.7 gal</td>
<td>17.69 gal</td>
<td>36.9 gal</td>
<td>13.7 gal</td>
<td>19.8 gal</td>
<td>1.3 gal</td>
<td>15.8 gal</td>
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### Standards

<table>
<thead>
<tr>
<th></th>
<th>Brakes</th>
<th>Cab/FOPS</th>
<th>Cab/ROPS</th>
<th>Steering</th>
</tr>
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</table>
## Dimensions

All dimensions are approximate.

### Table

<table>
<thead>
<tr>
<th></th>
<th>mm</th>
<th>ft/in</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7310</td>
<td>24'0&quot;</td>
</tr>
<tr>
<td>2</td>
<td>3178</td>
<td>10'6&quot;</td>
</tr>
<tr>
<td>3</td>
<td>779</td>
<td>2'7&quot;</td>
</tr>
<tr>
<td>4</td>
<td>6457</td>
<td>21'2&quot;</td>
</tr>
<tr>
<td>5*</td>
<td>5900</td>
<td>19'4&quot;</td>
</tr>
<tr>
<td>6</td>
<td>590</td>
<td>1'11&quot;</td>
</tr>
<tr>
<td>7</td>
<td>1448</td>
<td>4'9&quot;</td>
</tr>
<tr>
<td>8</td>
<td>1966</td>
<td>6'5&quot;</td>
</tr>
<tr>
<td>9</td>
<td>4590</td>
<td>15'1&quot;</td>
</tr>
<tr>
<td>10</td>
<td>3418</td>
<td>11'3&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>mm</th>
<th>ft/in</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>11,422</td>
<td>37'6&quot;</td>
</tr>
<tr>
<td>12**</td>
<td>11,550</td>
<td>37'11&quot;</td>
</tr>
<tr>
<td>13</td>
<td>3762</td>
<td>12'5&quot;</td>
</tr>
<tr>
<td>14</td>
<td>3801</td>
<td>12'6&quot;</td>
</tr>
<tr>
<td>15**</td>
<td>3774</td>
<td>12'5&quot;</td>
</tr>
<tr>
<td>16***</td>
<td>3422</td>
<td>11'3&quot;</td>
</tr>
<tr>
<td>17†</td>
<td>2687</td>
<td>8'10&quot;</td>
</tr>
<tr>
<td>18††</td>
<td>3370</td>
<td>11'1&quot;</td>
</tr>
<tr>
<td>19†††</td>
<td>3500</td>
<td>11'6&quot;</td>
</tr>
</tbody>
</table>

* Inside of body  
** With tailgate  
*** Body width  
† Track width  
†† Over fenders  
††† Over tire bulge

Unladen dimensions with 29.5R25 standard tires.
745 Articulated Truck Specifications

**Turning Circle**
Dimensions are for machines equipped with 29.5R25 tires.

<table>
<thead>
<tr>
<th>Turning Dimensions</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Steer Angle – Left/Right</td>
<td>45°</td>
<td></td>
</tr>
<tr>
<td>SAE Turning Radius</td>
<td>8625 mm 340 in</td>
<td></td>
</tr>
<tr>
<td>Clearance Radius</td>
<td>9082 mm 356 in</td>
<td></td>
</tr>
<tr>
<td>Inside Radius</td>
<td>4413 mm 174 in</td>
<td></td>
</tr>
<tr>
<td>Aisle Width</td>
<td>5917 mm 233 in</td>
<td></td>
</tr>
</tbody>
</table>

**Steering**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lock to Lock</td>
<td>4.8 seconds @ 60 rpm</td>
<td></td>
</tr>
</tbody>
</table>

**Optimal Loader/Truck Pass Matching**

<table>
<thead>
<tr>
<th>Hydraulic Excavators</th>
<th>390</th>
<th>374</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passes</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wheel Loaders</th>
<th>982</th>
<th>980</th>
<th>972</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passes</td>
<td>4</td>
<td>4-5</td>
<td>4-5</td>
</tr>
</tbody>
</table>

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.
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.
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.

**GROSS MACHINE WEIGHT***

<table>
<thead>
<tr>
<th>lb × 1000</th>
<th>kg × 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>60</td>
<td>30</td>
</tr>
<tr>
<td>80</td>
<td>40</td>
</tr>
<tr>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>120</td>
<td>60</td>
</tr>
<tr>
<td>140</td>
<td>70</td>
</tr>
<tr>
<td>160</td>
<td>80</td>
</tr>
<tr>
<td>180</td>
<td>90</td>
</tr>
</tbody>
</table>

**% EFFECTIVE GRADE**

- 35%
- 30%
- 25%
- 20%
- 15%
- 10%
- 5%

**SPEED**

<table>
<thead>
<tr>
<th>km/h</th>
<th>mph</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>30</td>
<td>18</td>
</tr>
<tr>
<td>35</td>
<td>21</td>
</tr>
<tr>
<td>40</td>
<td>24</td>
</tr>
</tbody>
</table>

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 33 600 kg (74,100 lb)
L – Loaded 74 600 kg (164,500 lb)
* at sea level

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Manual
Automatic
Standard Equipment

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

**OPERATOR ENVIRONMENT**
- Air conditioning with R134A refrigerant
- Adjustable air vents
- Combined gear selection and hoist control lever
- Glass windows:
  - Front, laminated and tinted
  - Sides and rear, toughened and tinted
- Heater and defroster with variable speed fan
- Mirrors: extensive arrangement for improved visibility
- Machine operation monitoring system includes:
  - 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
- Liquid Crystal Display (LCD):
  - Alert indicator
  - Selected gear and direction
  - Speed or auto shift
  - Review Operation and Maintenance Manual (OMM)
  - Primary steering failure
  - Seat belt warning
  - Secondary steering failure
  - Diesel Particulate Filter (DPF) regeneration filter
  - Machine Security System (MSS)
  - Secondary steering energy source engaged
  - Hour meter
  - Retarder active
- Seats:
  - Fully adjustable, air suspension
  - Padded trainer with lap belt
- Secondary steering – electro hydraulic
- Storage:
  - Cup holder
  - Flask receptacle
  - Under seat storage
  - Door pocket
  - Behind seat storage
  - Coat hook
- Sun visor
- Tilt and telescopic steering wheel
- Touch screen display incorporating the rearview camera video feed
- Two seat belts, operator’s retractable
- Windows opening side, tinted
- Window blinds
- Windshield wiper and washer, two speed, intermittent (front)
- Windshield wiper and washer, two speed (rear)

**CAT CONNECT TECHNOLOGIES**
- Product Link: PL631 (satellite) or PL641 (cellular) dependent on location and licensing agreement
- Cat Detect with Stability Assist

**POWER TRAIN**
- Auto shift nine-speed forward and two reverse transmission
- Cat C18 ACERT engine
- Cat Clean Emission Module (CEM) and exhaust aftertreatment package
- Differentials: standard with automatic clutched inter- and cross-axle differential locks
- Dual circuit oil immersed, enclosed brakes – all wheels
- Retarder: engine compression brake
- Three axle, six-wheel drive

**SAFETY**
- Reverse alarm
- Rearview camera
- ROPS/FOPS cab

**GUARDS**
- Rear window
- Radiator
- Crankcase
- Axle
- Front dump body spill guard, integral part of fabricated body

**OTHER STANDARD EQUIPMENT**
- Mud flaps: wheel arch and body mounted with transportation tiebacks
- S·O·S sampling valves
- Tires, six 29.5R25, radial
- Vandalism protection: lockable caps for fuel tank and hydraulic oil tank
## Optional Equipment

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

- Auto lube installation for automatic greasing of bearings
- Bare chassis (no body) standard wheel base
- Bare chassis (no body) long wheel base
- Body liners
- Bluetooth radio stereo system
- Cat Production Measurement payload monitoring system
- Cold weather coolant –51°C (–60°F)
- Cold weather start attachment
- Engine block heater
- Ether start
- Exhaust heated body
- Fast fuel fill
- Fender extension
- Flashing LED beacon
- Four-point seat belt
- Fuel additive – anti-waxing
- Heated rearview motorized mirrors
- Machine Security System (MSS)
- Product Link Elite: PLE631 (satellite), PLE641 (cellular)
- Roof mounted High Intensity Discharge (HID) work lights
- Scissor tailgate
- Seat (deluxe) heated/cooled, half leather, air adjustable lumbar and air adjustable bolsters
- Sound suppression
- 875/65 R29 wide tires