



# Cat® 777

## Off-Highway Truck

**The Cat® 777 is engineered to be the most efficient 100-ton mechanical truck in the industry. With your input, we have designed and manufactured a truck that is reliable, durable, and economical, offering comfort, confidence, and control to its operators. With an improved access system designed to minimize slips and falls, this truck provides firm footing and stability in less-than-perfect conditions.**

### Achieve Greater Productivity

- Haul your materials faster with an accelerated travel speed.
- Put more power to the ground with a 7% increase in torque.
- Advanced Productivity Electronic Control Strategy (APECs) transmission controls carry more torque through the shifts, producing faster cycle times, most noticeably on grades.
- Enjoy greater productivity while using a more responsive Traction Control System (TCS).
- Reduce tire wear with maximum traction by engaging TCS early in the slip.
- Strong, predictable performance helps operators achieve the lowest cost per ton.

### Boost Fuel Efficiency

- APECs transmission controls increase fuel efficiency by maintaining momentum and speed on grade.
- Automatically optimize fuel consumption with the Adaptive Economy mode – reduces fuel use without affecting productivity and can be engaged with a single button.
- Find improvements in fuel efficiency with auto neutral idle.
- Haul your 777 truck at a more fuel-efficient engine speed and gear selection with speed limiting.
- Conserve fuel with integrated Engine Idle Shutdown by the engine automatically initiating when the truck is in park and idle for a preset amount of time.

### Designed for Safety

- Improvements in accessibility with safe ground-level access to fuel fill and daily maintenance points.
- Ensure three points of contact when entering and exiting the machine with strategically placed walkways and grab rails.
- Wet disc braking is standard on all four corners of the truck.
- Ground-level refueling requires no climbing on the machine to fill the fuel tank.
- The ground-level engine shutoff switch stops all fuel to the engine when activated and shuts down the machine safely.
- Overload speed limiter works with truck payload system to reduce machine speed automatically when the truck is overloaded.
- Four-point seat belt for operator and lap belt for trainer seat.
- Four camera and radar system to identify potential hazards.

### Work in Comfort

- Completely redesigned cab for a whole new standard in visibility, comfort, and productivity.
- The new operator seat placement provides easier operation and comfort to the operator.
- Improvements in visibility gain enlarged views of the work area and its surroundings.
- Access connectivity and decrease clutter with more storage areas with the new designed cab.
- Enjoy the easy automotive-quality shifting with the new integrated hoist and transmission controls.
- Automatic cab temperature controls.
- Simplified operator interface with touchscreen display.
- Best-in-class lighting with new LED lighting package.

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## Technology That Gets Work Done

- Integrated systems give you the ability to make timely, fact-based decisions to maximize efficiency, improve productivity, and lower costs.
- Gain valuable insight into how your machine is performing by continuously monitoring and collecting vital machine data via the advisor display with the software Vital Information Management System (VIMS™).
- Truck Production Management System (TPMS) provides accurate weighing of the materials, stores 2,400 payload cycles, and reports on weights, haul cycle times, and distances with date and time stamps.
- External payload indicator lights alert the loader when to stop, reducing the risk of machine overloading.
- Product Link™ system connects to each machine wirelessly, allowing you to monitor location, hours, fuel use, productivity, idle time, and diagnostic codes.
- VisionLink™ wirelessly connects you to your equipment, giving you access to essential information you need to know to run your business.
- The Cat 777 is MineStar™ ready and includes Cat Product Link Elite and VIMS to help optimize equipment management, remote monitoring capabilities, machine availability, and component life while reducing both repair costs and the risk of catastrophic failure.

## Durability

- New C32B engine with Integrated Fuel Lines (IFL) heads and Dual Sensor Coolant Protection (DSCP) for improved durability, temperature distribution, and structural robustness.
- Improved transmission life and smooth shifting with APECS.
- Autostall enables quick operating temperatures for best performance and life.
- Delayed Engine Shutdown prevents hot shutdowns that can reduce component life.

## Reduced Maintenance Costs and Other Costs

- Grouped service points.
- Control Particulate Matter (PM) with two engine-mounted diesel oxidation catalyst canisters. (Tier 4 only)
- NRS technology replaces a portion of intake air with exhaust gas to control combustion temperatures and NOx production. (Tier 4 only)
- Parts commonality with other Cat equipment.
- Resolve problems before failure occurs with VIMS notifications.
- Hydraulic oil filter life is extended to 1,000 hours under normal operating conditions.
- Redesigned EGR coolers utilize flexible tubes to be more robust to cooling loss and more durable. (Tier 4 only)

## Application Versatility

- A Coal body option of varying capacities is available for lightweight materials.
- For haul profiles including steep slopes, an optional Dual Slope body is available – offering excellent material retention.
- The X body features a flat floor for increased capacity for lightweight materials, making it suitable for quarry applications where material is fed into a crusher.
- The Dual Slope body is engineered to handle demanding mining conditions and heavy loads, providing outstanding durability and performance.

## Standard and Optional Equipment

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

	Standard	Optional	Standard	Optional
<b>POWERTRAIN</b>			<b>TECHNOLOGY PRODUCTS</b>	
Air filter with precleaner (2)	✓		Adaptive economy mode	✓
Air-to-Air Aftercooler (ATAAC)	✓		Advanced health	✓
Automatic cold mode idle control	✓		Object detection (2 cameras)	✓
Autostall	✓		Object detection (4 cameras)	✓
Braking system: extended life brakes, brake wear indicator, Automatic Retarder Control (ARC) (utilizes oil-cooled, multiple disc brakes), brake release motor (towing), manual retarder (utilizes oil-cooled, multiple disc brakes), oil-cooled and multiple disc (front/rear), parking, secondary, service	✓		Product Link™ ready (Level 1)	✓
Cat C32B Engine (Tier 4 Final/EU Stage V/Tier 2/EU Stage II)	✓		Road analysis control (RAC)	✓
Cat engine compression brake	✓		TKPH/TMPH (Tons Kilometer Per Hour/Tons Mile Per Hour)	✓
Cold weather packages	✓		Work Area Vision System (WAVS)	✓
Electric cold weather start (two starters and four batteries)	✓		<b>OPERATOR ENVIRONMENT</b>	
Electric priming pump	✓		Advisor display (touchscreen)	✓
Engine Idle Shutdown	✓		Air conditioning	✓
Ether starting aid	✓		Auto temp control	✓
Extended life coolant to -35° C (-30° F)	✓		Diagnostic connection port, 24V	✓
Fan - variable speed (Tier 4)	✓		Entertainment radio ready: 5 amp converter, speakers, antenna, wiring harness	✓
Fan - variable speed (Tier 2)	✓		Gauges/indicators: brake oil temperature, coolant temperature, hour meter, tachometer, engine overspeed indicator, fuel level, speedometer with odometer, transmission gear indicator	✓
Fuel filter/water separator	✓		Load counter, automatic	✓
Muffler, exhaust (Tier 2)	✓		Mirrors, convex	✓
Muffler, sound suppression (Tier 2)	✓		Mirrors, heated	✓
Transmission: 7-speed automatic powershift with Electronic Clutch Pressure Control (ECPC), torque shift management, part throttle shifting, body upshift inhibitor, directional shift management, downshift inhibitor, neutral start switch, neutral coast inhibitor, reverse shift inhibitor, reverse neutralizer during dumping, programmable top gear selection, Advanced Productivity Electronic Control Strategy (APECS software), auto neutral idle	✓		ROPS cab, insulated/sound suppressed	✓
Turbocharger (2)	✓		Seat, Cat Next Gen Deluxe, retractable 4-point seat belt with shoulder harness and seat belt reminder	✓
<b>ELECTRICAL</b>			Truck Production Management System (TPMS)	✓
Alarm, backup	✓		Visibility package (meets ISO 5006 requirements)	✓
Alternator, 115 ampere	✓		Window, right side, hinged access/egress	✓
Auxiliary jump start receptacle	✓		<b>OTHER</b>	
Batteries, maintenance-free, 12V (4), 200 amp-hour	✓		Auto lube fittings	✓
Electrical system, 25 amp, 24V to 12V converter	✓		Body safety pin (secures body in up position)	✓
Lighting system (LED): backup light, directional signals/hazard warning (front and rear), headlights, payload – indicator lights, operator access courtesy lights, side profile lights, stop/tail lights, service lights	✓		Body down indicator	✓
			Body heat, liners, sideboards	✓
			Clustered grease fittings	✓
			Engine sound suppression (XQ) – Tier 4 only	✓
			Fire suppression arrangement	✓
			Fluid fill service center	✓
			Fuel tank (1136 L/300 gal)	✓
			Ground level: battery disconnect, engine shutdown, grease fittings	✓
			Mud protection package	✓
			Oil renewal system	✓
			Rear Axle Filtration (RAX)	✓
			Traction Control System (TCS) (new version)	✓
			Wiggins fast fuel	✓

# Cat® 777 Off-Highway Truck

## Technical Specifications

### Engine (Tier 4/Stage V and Tier 2/Stage II)

Engine Model	Cat® C32B	
Engine Speed	1,800 rpm	
Cylinders	12	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in <sup>3</sup>
<b>Tier 4/Stage V</b>		
Gross Power – SAE J1995:2014	765 kW	1,025 hp
Net Power – SAE J1349:2011	683 kW	916 hp
Net Power – ISO 9249:2007	683 kW	916 hp
Net Power – 80/1269/EEC	683 kW	916 hp
Engine Power – ISO 14396:2002	752 kW	1,008 hp
Peak Torque Speed	1,200 rpm	
Net Torque	5044 N·m	3,720 lbf·ft
<b>Tier 2/Stage II</b>		
Gross Power – SAE J1995:2014	765 kW	1,025 hp
Net Power – SAE J1349:2011	704 kW	945 hp
Net Power – ISO 9249:2007	704 kW	945 hp
Net Power – 80/1269/EEC	704 kW	945 hp
Engine Power – ISO 14396:2002	755 kW	1,012 hp
Peak Torque Speed	1,200 rpm	
Net Torque	5286 N·m	3,899 lbf·ft

- Net power available at the flywheel when the engine is equipped with fan, air cleaner, after-treatment, and alternator with engine speed at 1,800 rpm.
- Power rating applies at 1,800 rpm when tested under the specified condition for the specified standard.
- Ratings based on SAE J1995 standard air conditions of 25° C (77° F) and 100 kPa (29.61 HG) barometer. Power based on fuel having API gravity of 35 at 16° C (60° F) and an LHV of 42 780 kJ/kg (18,390 BTU/lb) when engine used at 30° C (86° F).
- No engine derating required up to 2286 m (7,500 ft).
- Meets U.S. EPA Tier 4 Final and EU Stage V emission standards or Noncertified configuration that is equivalent to U.S. EPA Tier 2.

### Transmission

Speed	km/h	mph	Speed	km/h	mph
Forward 1	10.7	6.6	Forward 5	36.2	22.5
Forward 2	14.6	9.1	Forward 6	48.6	30.2
Forward 3	19.2	11.9	Forward 7	65.9	40.9
Forward 4	26.7	16.6	Reverse	12.1	7.5

\* Maximum travel speeds with standard 27.00R49 (E4) tires.

### Final Drives

Differential Ratio	2.736:1	
Planetary Ratio	7.0:1	
Total Reduction Ratio	19.1576:1	

### Brakes

Brake Surface – Front	40 846 cm <sup>2</sup>	6,331 in <sup>2</sup>
Brake Surface – Rear	102 116 cm <sup>2</sup>	15,828 in <sup>2</sup>
Brake Standards	ISO 3450:2011	

### Operating Weights

Target Gross Machine Weight	164 654 kg	363,000 lbs
Empty Operating Weight, Dual Slope	68 316 kg	150,612 lbs
Empty Operating Weight, Flat Floor	68 092 kg	150,177 lbs
Target Payload, Dual Slope	96 338 kg	212,388 lbs
Target Payload, Flat Floor	96 562 kg	212,883 lbs

### Weight Distributions – Approximate

Front Axle – Empty/Loaded	42%/33%
Rear Axle – Empty/Loaded	58%/67%

### ROPS/FOPS

#### ROPS/FOPS Standards

- Rollover Protective Structure (ROPS) for cab offered by Caterpillar meets ISO 3471:2008 for operator and ISO 13459:2012 for trainer.
- Falling Objects Protective Structure (FOPS) meets ISO 3449:2005 Level II for operator and ISO 13459:2012 Level II for trainer.

### Body Capacities – 100% Fill Factor

Struck – Dual Slope	41.9 m <sup>3</sup>	54.8 yd <sup>3</sup>
Heaped – SAE 2:1*	60.1 m <sup>3</sup>	78.6 yd <sup>3</sup>
Struck – X Body	43.1 m <sup>3</sup>	56.3 yd <sup>3</sup>
Heaped – SAE 2:1*	64.1 m <sup>3</sup>	83.8 yd <sup>3</sup>

\* Contact your local Cat dealer for body recommendation.

\* ISO 6483:1980.

### Sound – Tier 4 Final/Stage V/Tier 2 Equivalent

Operator Sound Pressure Level (ISO 6396:2008)	71 dB(A)
Machine Sound Power Level (ISO 6395:2008)	116 dB(A)

- The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- 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 a noisy environment.

### Steering

Steering Standards	ISO 5010:2019	
Turning Diameter – Front	25.3 m	83.0 ft
Turning Circle Clearance Diameter	28.4 m	93.0 ft

### Tires

Standard Tire Size	27.00R49 (E4)	
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### Service Refill Capacities

Cooling System (Tier 4)	231.0 L	60.2 gal
Cooling System (Tier 2)	219.0 L	57.9 gal
Crankcase	109.0 L	28.7 gal
Differentials	227.0 L	59.9 gal
Final Drives (each)	76.0 L	20.0 gal
Steering System (includes tank)	53.6 L	14.1 gal
Hoist and Brake System	444.0 L	117.0 gal
Front Wheels (each)	7.5 L	85.0 gal
Torque Converter/Transmission System	138.5 L	36.5 gal

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Replaces: AEXQ2670-01

Build number: 07B (prefix: 7M2, 7M3)  
(Global)