777

OFF-HIGHWAY TRUCK

Engine Gross Power	765 kW (1,026 hp)
Empty Operating Weight	65 149 kg (143,629 lb)

Meets China Nonroad Stage III emission standards. Equivalent to U.S. EPA Tier 2.

CAT®

THE CAT® 777

The Cat® 777 provides best-in-class productivity, durability, and fuel economy, with a newly redesigned C32B engine and APECS transmission controls. Designed to be durable, it is the lowest cost-per-ton machine for your applications. Reliable, economical, and offering improved comfort, confidence, and control for the operator, the 777 is the right choice for your operation.

THIS TRUCK REDEFINES PERFORMANCE

The Cat 777 Off-Highway Truck lets you haul more, easily and at a lower cost.

+ IMPROVED PERFORMANCE AND ENHANCED DURABILITY
+ LOWER FUEL CONSUMPTION
+ ENHANCED COMFORT AND EASE OF OPERATION

The 777 improves your operation by moving more material efficiently and makes life easier for operators.

UP TO 5% INCREASED FUEL EFFICIENCY

DO MORE, BURN LESS FUEL

FUEL-SAVING **ECO MODES**

Economy mode modifies engine maps to take advantage of steady grades and level ground, reducing power and fuel burn. Operators may choose an automatic adaptive Eco mode and driver-controlled configurable mode. Forced Economy mode configuration can be selected based on application needs.

SAVE MORE WITH **IDLE CONTROL AND AUTO STALL**

Engine Idle Shutdown identifies when the truck is in park and idles for more than a preset time, initiating engine shutdown to conserve fuel. The auto neutral idle system reduces torque load when the engine is idling, reducing fuel burn further. Auto stall automatically warms up the system to bring the machine to operating temperature soon, reducing fuel consumption/emissions.

SPEED LIMITING **REDUCES WASTE**

The Speed Limiting feature automatically and instantaneously selects the most fuel-efficient gear for the terrain based on the truck's laden/unladen weight.

ECONOMICAL **SAVINGS**

THE 777 IS THE SENSIBLE CHOICE FOR YOUR BUSINESS.

LOWER **FUEL COSTS**

IMPROVED PERFORMANCE

ACHIEVE GREATER PRODUCTIVITY

Smart new design features increase the productivity of the 777 by up to 5%.

7% INCREASE IN TORQUE

Advanced Productivity Electronic Control Strategy (APECS) allows the engine and transmission to communicate on a high level. This allows the machine to better utilize engine power and increased torque. The net result? You move more material.

BETTER BRAKE ACTUATION FOR SUPERIOR PERFORMANCE

A new hydraulically actuated brake system delivers superior braking, improves brake component life, and reduces maintenance costs.

TRANSMISSION CONTROLS THAT BOOST EFFICIENCY

Second gear start helps to skip first gear engagement, improving cycle time, minimizing the number of shifts, and running the machine at an optimum speed from the starting point. A machine speed limit feature runs the machine at an optimal gear for the selected speed.

INTEGRATED SHIFTER FOR EASIER CONTROL

The new next generation gearshift lever has integrated hoist and parking brake controls for ease of operation.

BEST-IN-CLASS TOUCHSCREEN

A simplified operator interface features an improved touchscreen display, which allows you to easily navigate through machine control systems during operation and service of the machine.

EXPANDED REAR VISIBILITY

A redesigned interior gives you better visibility, including expanded rear visibility with a new, improved mirror package on both sides of the machine.

BEST-IN-CLASS LIGHTING

A new LED lighting package includes head, work, indicator, and backup lights for superior visibility and durability.

SMOOTH RIDE

The Cat Comfort Seat uses full air suspension to smooth rough rides. A visual and audio warning is provided to the operator when the retractable four-point seat belt with a shoulder harness is not in use. The 777's suspension system is also designed for a superior ride.

REDUCE FATIGUE

The operator station interior 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.

BUILT WITH SAFETY IN MIND

SAFETY FEATURES

A CAB BUILT TO PROTECT

The sturdy four-point mounted cabin features laminated safety glass, four-point harness with visual and audio alerts, and emergency egress through the right side door. Rollover and falling object protection is an extension of the truck frame. A trainer seat with a lap belt allows for easy and safe on-the-job training.

SAFE ENTRY AND EGRESS

The integrated access ladder system and all access platforms are equipped with handrails designed for three points of contact at all times. Aggressive tread plate is installed on all step areas with illuminated access for night operation.

GROUND LEVEL LOCKOUTS PROTECT PERSONNEL

The 777 is equipped with ground-level engine and machine lockout controls, helping service technicians perform maintenance work on the machine safely.

TECHNOLOGY ENSURES SAFE OPERATION

Transmission controls impose gear limiting during body up operations. If the primary hydraulic steering fails, a secondary battery-powered system automatically gets activated to ensure safe operation. If the truck is overloaded, an automatic overspeed limiter reduces the machine speed.

LOWERING OPERATING COSTS

DURABILITY AND LONG LIFE

A PROTECTED AND ENHANCED POWER TRAIN

New C32B engine with Integrated Fuel Lines (IFL) cylinder heads, Dual Sensor Coolant Protection (DSCP) system, and a Delayed Engine Shutdown (DES) feature improves engine life. The APECS transmission system, with its smoother shifting and advanced controls, and transmission/torque convertor low oil level sensor improve power train component life.

EASIER SERVICE

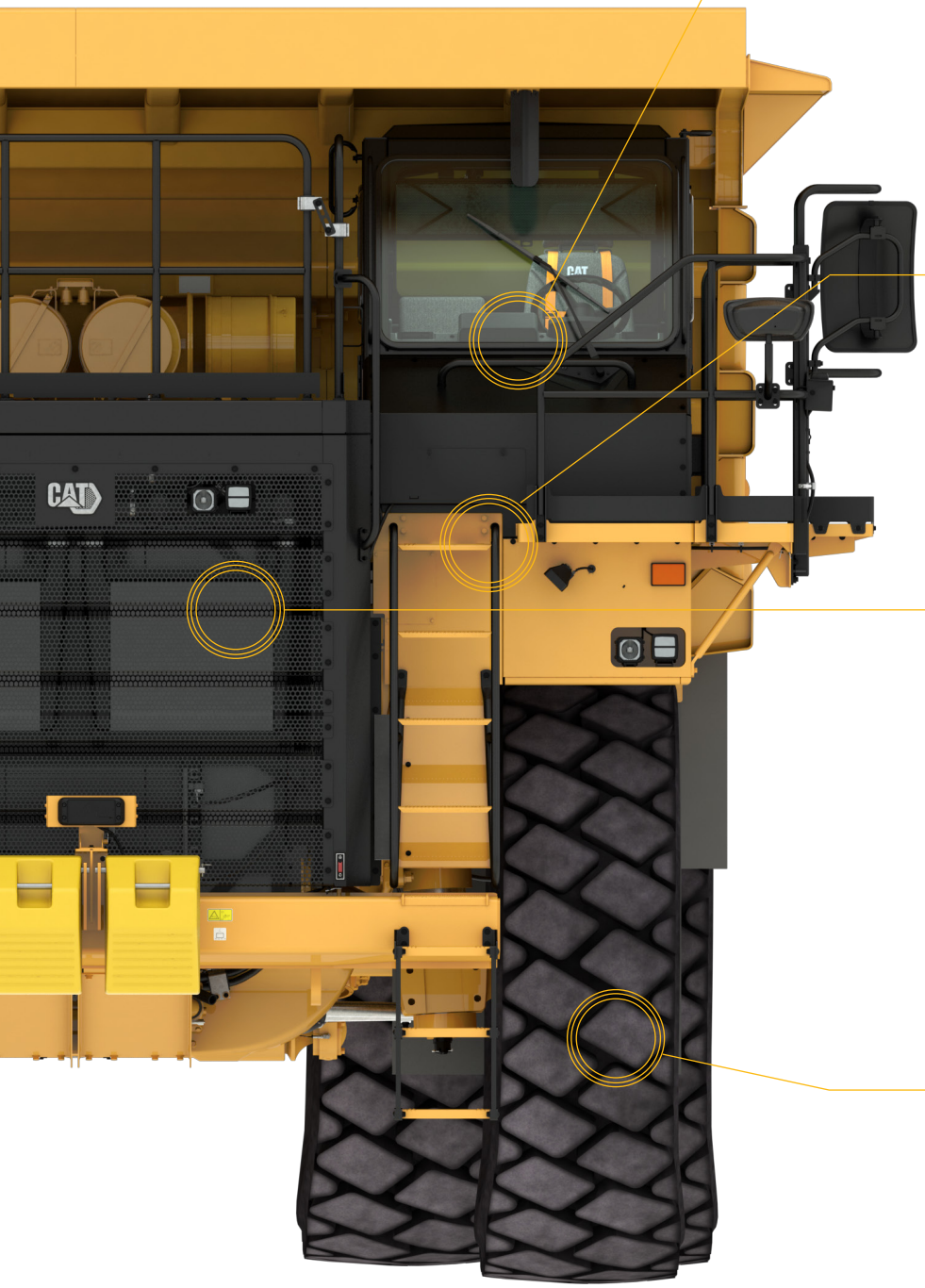
Easy access to daily service points, convenient filters, and fluid refill reduce time spent on regular maintenance procedures. Ground-level lockouts and breaker access make pre-service safety procedures quick and easy. The open frame design reduces removal and replacement time for major components.

TOUGH STRUCTURES

The 777 continues the Caterpillar tradition of durability, with a tough frame designed to deal with twisting loads. The rugged suspension not only reduces stress on the machine's structures, but it's also highly durable itself, with solid steel spindles and other components engineered for long life.

CAT TECHNOLOGIES

Integrated technologies such as Product Link™, Vital Information Management System (VIMS™), and Truck Payload Management System (TPMS) give you all the data you need to make the most of your investment. Easily monitor location, hours, fuel use, cycle times, diagnostic codes, and more.



COMFORT AND CONTROL

King pin front suspension absorbs shocks and maintains steering tolerances and tire alignment. Ride is improved with smoother APECS powershift transmission. Front and rear visibility is increased by an improved cab and redesigned mirror package. Air suspension seat adjusts to operator weight. Four-point seat belt has six adjustment points for optimum fit and comfort.

STRONG CONSTRUCTION

Castings and box section frame are designed for off-road integrity and more than one life cycle. Inverted rear suspension cylinders minimize contamination, and solid steel spindles have longer life.

UPDATED ENGINE

Improved Cat C32B engine delivers 10 hp more power and 7% more torque, which provides better rim-pull and speed on grades. Equipped with ground-level engine shutdown switch and MEUI™ injectors for greater fuel efficiency and load response. Emits equivalent to U.S. EPA Tier 2 and saves fuel with dual economy modes. B30 bio-diesel compatible.

HIGH PERFORMANCE

Improved Traction Control System (TCS) is more responsive and reduces tire wear in wet, sloped conditions. New hydraulic brakes improve braking performance and require less maintenance. Automatic retarder control and speed limiting reduce brake wear and cycle time while increasing fuel efficiency. TKPH/TMPH feature calculates tire loading and helps extend tire life (optional equipment).

REAL-TIME INFORMATION WITH INTEGRATED TECHNOLOGIES

TAKES THE GUESSWORK OUT OF MANAGING YOUR EQUIPMENT

The Cat Truck Payload Management System (TPMS), Vital Information Management System (VIMS), Cat Link Hardware (Product Link) and my.cat.com put vital equipment information at your fingertips.*

PRODUCT LINK™/PRODUCT LINK ELITE HARDWARE

Remotely track asset location, hours, fuel usage, diagnostic codes, idle time, and more to improve your productivity and lower your operating costs. Cellular connectivity comes standard. Satellite connectivity is available.

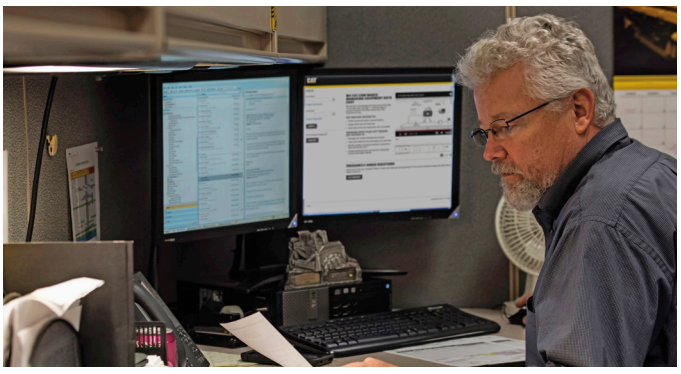
VITAL INFORMATION MANAGEMENT SYSTEM (VIMS™)

Proactively manage machine health and production. This user-friendly interface monitor is available in the cabin and allows operators to monitor real-time machine performance and operating data. Access diagnostics, prognostic trends, and production information such as payload, haul cycle times, segment times, and fuel usage.

TRUCK PAYLOAD MANAGEMENT SYSTEM (TPMS)

Using onboard sensors, the TPMS clearly indicates overloading/underloading to the operator. Carry out a detailed analysis on payload carried, cycle segment times, and fuel burned to improve overall efficiency.

In addition, the Tonne Kilometer per Hour/Ton Miles per Hour (TKPH/TMPH) monitoring system monitors payload, speed, and ambient temperature to calculate the best operating conditions for the truck's tires and warns the operator when those parameters are exceeded.



MY.CAT.COM

You can also access Caterpillar and Cat dealer information at my.cat.com. My.cat.com gives you access to Planned Maintenance (PM) schedules, parts and service records, warranty coverage, and more – with a single login. Plus, you can link directly to your VisionLink® account.

**Technology features are optional equipment. Refer to the standard/optional features segment or consult your Cat dealer for details.*

TECHNICAL SPECIFICATIONS

See cat.com for complete specifications.

ENGINE		
Engine Model	Cat® C32B	
Rated Engine Speed	1,800 rpm	
Gross Power – SAE J1995	765 kW	1,026 hp
Net Power – SAE J1349	711 kW	953 hp
Peak Torque @ 1,200 rpm	5286 N·m	3,899 lbf-ft
Net Torque Rise	36%	
Number of Cylinders	12	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in^3

- Net power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, 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 J1995:2011 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 3048 m (10,000 ft).
- Meets China Nonroad Stage III emission standards. Equivalent to U.S. EPA Tier 2.

OPERATING WEIGHTS		
Target Gross Machine Weight	163 360 kg	360,147 lbs
Body Weight, Dual Slope	16 070 kg	35,428 lbs
Body Weight, Flat Floor	15 907 kg	35,069 lbs
Empty Operating Weight, Dual Slope	65 149 kg	143,629 lbs
Empty Operating Weight, Flat Floor	64 987 kg	143,272 lbs
Target Payload, Dual Slope	98 211 kg	216,518 lbs
Target Payload, Flat Floor	98 373 kg	216,875 lbs

BODY CAPACITIES		
Struck (Dual Slope)	41.9 m^3	54.8 yd^3
Heaped Volume (Dual Slope), SAE 2:1	60.1 m^3	78.6 yd^3
Struck (Flat Floor)	43.1 m^3	56.4 yd^3
Heaped Volume (Flat Floor), SAE 2:1	64.1 m^3	83.8 yd^3

*Contact your local Cat dealer for body options

TRANSMISSION					
Forward 1	10.9 km/h	6.8 mph	Forward 5	36.8 km/h	22.9 mph
Forward 2	14.8 km/h	9.2 mph	Forward 6	49.4 km/h	30.7 mph
Forward 3	20.1 km/h	12.5 mph	Forward 7	67.1 km/h	41.7 mph
Forward 4	27.1 km/h	16.9 mph	Reverse	12.1 km/h	7.5 mph

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

WEIGHT DISTRIBUTION – APPROXIMATE	
Dual Slope	
Front Axle, Empty/Loaded	46%/30%
Rear Axle, Empty/Loaded	54%/70%
Flat Floor	
Front Axle, Empty/Loaded	45%/28%
Rear Axle, Empty/Loaded	55%/72%

FINAL DRIVE	
Differential Ratio	2.74:1
Planetary Ratio	7.00:1
Total Reduction Ratio	19.16:1

BRAKES		
Brake Surface – Front dry	2787 cm^2	432 in^2
Brake Surface – Rear	102 116 cm^2	15,828 in^2
Brake Surface – Front wet (optional)	40 846 cm^2	6,331 in^2
Brake Standard	ISO 3450:2011	

BODY HOISTS	
Body Raise Time – High Idle	15 seconds
Body Lower Time – Float	13 seconds
Body Lower Time – High Idle	13 seconds

SOUND	
Sound Standards	ISO 6396:2008

- The dynamic operator sound pressure level is 80 dB(A) as per ISO 6396:2008 for cab offered by Caterpillar. The cab was properly installed and maintained. The test was conducted with the cab doors and the cab windows closed.

TIRES
Standard Tire 27.00R49 (E4)

- Productive capabilities of the 777 truck are such that, under certain job conditions, TKPH (TMPH) capabilities of standard or optional tires could be exceeded and, therefore, limit production.
- Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

STEERING		
Steering Standards	ISO 5010:2007	
Steer Angle	30.5°	
Turning Diameter – Front	25.3 m	83 ft
Turning Circle Clearance Diameter	28.4 m	93 ft

SUSPENSION		
Effective Cylinder Stroke – Front	318 mm	12.5 in
Effective Cylinder Stroke – Rear	165 mm	6.5 in
Rear Axle Oscillation	± 5.4°	

SERVICE REFILL CAPACITIES		
Fuel Tank	1140 L	300 gal
Cooling System	212 L	56 gal
Crankcase	115 L	30 gal
Differentials	222 L	59 gal
Final Drives (each)	42 L	11 gal
Steering System	60 L	16 gal
Brake/Hoist System	420 L	110 gal
Torque Converter/Transmission System	138 L	36 gal

STANDARD & OPTIONAL EQUIPMENT

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

POWER TRAIN	STANDARD	OPTIONAL
Auto electric fuel priming pump	●	
Biodiesel compatibility, B30	●	
Brake release motor (towing)	●	
Braking system: Oil cooled multiple disc (rear) and caliper disc (front), hydraulically applied & spring released	●	
Cat® C32B engine	●	
Cat transmission: 7F/1R speed planetary powershift, ECPC control, APECS software, programmable top, gear/speed selection, body upshift inhibitor, directional shift management, neutral start switch, neutral coast inhibitor, reverse shift inhibitor, reverse neutralizer during dump, 2nd gear movement	●	
Economy mode/Adaptive Economy mode	●	
Emergency/parking brake, spring applied and hydraulically released	●	
Engine overspeed protection	●	
Retarder control – manual	●	
Water/fuel separator	●	
Front oil cooled disc brake		●
Retarder control – automatic		●
Traction control system		●

OPERATOR ENVIRONMENT	STANDARD	OPTIONAL
Advisor, touchscreen display	●	
Ash tray	●	
Coat hook	●	
Combined gearshift/hoist/park break lever	●	
Cup/bottle holder	●	
Diagnostic connection port	●	
Horn electric	●	
HVAC	●	
Liquid crystal display (LCD), cluster gauge: Brake oil temperature, transmission oil temperature, engine coolant temperature, hour meter, tachometer, fuel level gauge, speedometer	●	
Left side power window	●	
Mirrors, left and right	●	
Radio ready	●	
Right side access door	●	
ROPS/FOPS cabin	●	
Seat, trainer with lap belt	●	
Seats: operator – fully adjustable, air suspension, 4-point seat belt with reminder	●	
Storage compartment	●	
Sun visor	●	
Switches: Throttle lock, wipers/washers, hazard lights, headlights, secondary steering, back light adjust, AC on/off, spare, Economy mode, egress lamp, Product Link disconnect	●	
Tilt and telescopic steering wheel	●	
Heated mirror		●

ELECTRICAL SYSTEM	STANDARD	OPTIONAL
Access system lights, LED	●	
Alternator, 150 A	●	
Auxiliary jump start receptacle	●	
Backup alarm	●	
Backup light, LED	●	
Directional signal/hazard warning, LED lights	●	
Electrical system, 10 A, 24V to 12V converter	●	
Four batteries, 12V, 190 amp-hour	●	
Ground-level battery disconnect switch	●	
Ground-level engine shutdown switch	●	
Headlights with dimmer, LED	●	
Operator courtesy lights, LED	●	
Stop/taillights, LED	●	
Product Link™	●	
Switch, engine lockout	●	
Switch, machine lockout	●	
Two starter motors	●	
Audio visual backup alarm		●
Camera system		●
Cat Detect system		●
Fog lamp		●
Truck Payload Management System (TPMS)		●
Vital Information Management System (VIMS™)		●

OTHER	STANDARD	OPTIONAL
Body down indicator	●	
Body mounting group	●	
Body safety pin	●	
Driveline guard	●	
Engine crankcase guard	●	
Exhaust body heat system	●	
Extended life coolant to -35°C (-30°F)	●	
Ground-level grease fittings	●	
Hydropneumatic suspension	●	
Load counter	●	
Rock ejectors	●	
Tie down eyes/tow down hooks	●	
Vandalism protection lock	●	
Automatic lubrication system (27 kg/40 kg)		●
Body liner		●
Body sideboards		●
Cluster/grouped lubrication system		●
Cold weather package		●
Exhaust muffler		●
Fast fluid fill system		●
Fast fuel fill system		●
Fire extinguisher		●
High speed engine oil change system		●
Hydraulic power port		●
Wheel chocks		●

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

VisionLink® is a trademark of VirtualSite Solutions LLC, registered in the United States and in other countries.

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

www.cat.com www.caterpillar.com

AEXQ3081-01
2022 Product Update
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(Afr-ME, CIS, Asia Pacific, SE Asia)