



Cat[®] 777

Off-Highway Truck

The Cat[®] 777 Off-Highway Truck provides best-in-class productivity and enhanced durability with upgraded engine, superior transmission controls, comfortable cabin, and increased fuel economy and torque – designed to offer a durable and low cost-per-tonne machine for your applications.

Features may vary by region. Consult your Cat dealer for specific configurations available in your region.

Achieve Greater Productivity

- Productivity improvement up to 5%.
- Advanced productivity electronic control strategy (APECS) transmission controls carry more torque through the shifts, producing faster cycle times, most noticeably on grades.
- Machine speed limit feature allows the machine to run at an optimal gear for the selected speed.
- Auto stall assists in quickly bringing the transmission to an operating temperature at start-up when the machine is working in a cold climatic region.
- Second gear start skips first gear engagement depending upon underfoot conditions, improving the cycle time, minimizing the number of shifts, and running the machine at an optimum speed at initial start.
- Various body options along with liners and sideboard combinations offer flexibility to move a wide density of material without compromising on payload.
- No engine derating required up to 3048 m (10,000 ft).

Boost Fuel Efficiency

- Improved fuel economy due to optimized fuel mapping of the engine.
- Configurable economy mode helps to fix the engine power reduction depending upon the application. Engine derate can be varied from 0.5% to 15%.
- Adaptive economy mode determines the most efficient engine operating point when the truck is operating at steady state condition. The most efficient operating point is determined by customer inputs on fuel saving to max expected production limitation.
- 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.
- Auto neutral idle saves fuel by reducing torque load when the engine is idling and minimizes the transmission component wear.

Designed for Safety

- Superior brake performance meets the latest brake standards – ISO 3450:2011.
- Sturdy four-point mounted cabin meets rollover protective structure/falling objects protective structure (ROPS/FOPS) standards.
- Four-point seat belt for operator and lap belt for trainer seat.
- Seat belt indicator implements both visual and audible alerts to the operator when seat belt is not fastened.
- Lockout features help the service technician to perform maintenance work on the machine with safe mode.
- Secondary steering activates automatically in case of primary system failure.
- Overload speed limiter works with truck payload system to reduce machine speed automatically when the truck is overloaded.
- Integrated ladder access, extended catwalk, and aggressive tread plates on all steps ensure safe entry and egress.
- Cat Detect system with cameras and radar monitors objects that appear within designated machine blind spots, helps safe machine operation.

Easy to Operate

- Next gen gear shift lever with integrated hoist and park brake controls for ease of operation.
- Best-in-class touchscreen display for the operator to navigate through machine control system during interaction and service of the machine.
- Improved rear visibility for the operator with new mirror package on both sides of the machine.



Cat® 777 Off-Highway Truck

Integrated Cat Technologies

- Product Link™ system connects to each machine wirelessly, allowing you to monitor location, hours, fuel use, productivity, idle time, and diagnostic codes.
- Vital Information Management System (VIMS™) – User-friendly interface monitor is available in the cabin to monitor key parameters of the machine.
- 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 (optional attachment).

Proven Reliability and Serviceability

- Hydraulically actuated brake system improves brake component life and reduces maintenance costs.
- Convenient filters and fluid refill help make servicing of the machine faster.
- New auto lubrication system to meet varying customer requirements by providing metered grease for all lube points on the machine without any manual intervention (optional attachment).
- Hydraulic power port provides a quick disconnect system to allow dumping with external hydraulic source.
- Engine, transmission, and torque converter sump low oil level sensor protects the component and enhances the life.

Enhanced 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.
- Independent hydraulic and transmission system tanks to avoid cross contamination and prolong life of oil.
- Auto stall enables quick operating temperatures for best performance and life.
- Delayed engine shutdown prevents hot shutdowns that can reduce component life.
- New LED package includes head, work, indicator, and backup lights for superior visibility and durability.

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
POWER TRAIN			ELECTRICAL SYSTEM		
Auto electric fuel priming pump	✓		Alternator, 150 amp	✓	
Biodiesel compatibility, B30	✓		Auxiliary jump start receptacle	✓	
Brake release motor (towing)	✓		Backup alarm	✓	
Braking system: Hydraulically actuated brakes with oil cooled multiple disc (rear) and caliper disc (front), hydraulically applied and spring released	✓		Backup light, LED	✓	
Cat® C32B engine	✓		Directional signal/hazard warning, LED lights	✓	
Cat transmission: 7-speed automatic powershift with electronic clutch pressure control (ECPC), advanced productivity electronic control strategy (APECS software)	✓		Electrical system, 10 amp, 24V to 12V converter	✓	
Economy mode/adaptive economy mode	✓		Four batteries, 12V, 190 amp-hour	✓	
Emergency/parking brake, spring applied and hydraulically released	✓		Ground-level battery disconnect switch	✓	
Engine overspeed protection	✓		Ground-level engine shutdown switch	✓	
Retarder control – manual	✓		Headlights with dimmer, LED	✓	
Water/fuel separator	✓		Operator courtesy lights, LED	✓	
Front oil cooled disc brake		✓	Stop/taillights, LED	✓	
Retarder control – automatic		✓	Product Link	✓	
Traction control system		✓	Switch, engine and machine lockout	✓	
OPERATOR ENVIRONMENT			Two starter motors	✓	
Advisor, touchscreen display	✓		Vital Information Management System (VIMS™)		✓
Combined gear shift/hoist/park brake lever	✓		Working lights, LED	✓	
Diagnostic connection port	✓		Audio visual backup alarm		✓
Horn electric	✓		Camera system		✓
HVAC	✓		Cat Detect system		✓
Liquid crystal display (LCD), cluster gauge: Brake oil temperature, transmission oil temperature, engine coolant temperature, hour meter, tachometer, fuel level gauge, speedometer	✓		Fog lamp		✓
Left side power window	✓		Truck payload management system (TPMS)		✓
Mirrors, left and right	✓		OTHER		
Right side access door	✓		Body down indicator	✓	
ROPS/FOPS cabin	✓		Guards, engine crankcase and driveline	✓	
Seat, trainer with lap belt	✓		Exhaust body heat system	✓	
Seats: operator – fully adjustable, air suspension, 4-point seat belt with reminder	✓		Extended life coolant to -35°C (-30°F)	✓	
Sun visor	✓		Ground-level grease fittings	✓	
Switches: Throttle lock, wipers/washers, hazard lights, headlights, secondary steering, back light adjust, AC on/off, spare, Economy mode, egress lamp, Product Link™ disconnect	✓		Load counter	✓	
Tilt and telescopic steering wheel	✓		Vandalism protection lock	✓	
Blind spot mirror		✓	Automatic lubrication system (27 kg/40 kg)		✓
Heated mirror		✓	Body liner	✓	
			Body sideboards	✓	
			Cluster/grouped lubrication system	✓	
			Cold weather package	✓	
			Exhaust muffler	✓	
			Fast fluid fill system	✓	
			Fast fuel fill system	✓	
			Fire extinguisher	✓	
			Fuel tank 1325 L	✓	
			Hoist quick disconnect	✓	
			Oil change system – high speed	✓	
			Spare rim	✓	
			Wheel chocks	✓	

Cat® 777 Off-Highway Truck

Technical Specifications

Engine		
Engine Model	C32B	
Engine Speed	1800 rpm	
Gross Power – SAE J1995	765 kW	1,026 hp
Net Power – SAE J1349	711 kW	953 hp
Net Torque @ 1,200 rpm	5130 Nm	3,784 lb-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 in³

- Power rating applies at 1,800 rpm when tested under the specified condition for the specified standard at the time of manufacture.
- Ratings based on SAE J1349:2011 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) altitude
- Meets China Nonroad Stage III emission standards. Equivalent to U.S. EPA Tier 2.

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

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

Final Drive	
Differential ratio	2.74:1
Planetary ratio	7.00:1
Total reduction ratio	19.16:1

Brakes		
Brake surface – Front dry	2787 cm²	432 in²
Brake surface – Rear	102 116 cm²	15,828 in²
Brake surface – Front wet (optional)	40 225 cm²	6,235 in²
Brake Standard	ISO 3450:2011	

Operating Weights		
Target gross machine weight	163 360 kg	360,147 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

*Empty operating weights may vary based on the machine configuration.

Weight Distributions – Approximate		
	Dual Slope	Flat Floor
Front axle, Empty/Loaded	46% / 30%	45% / 28%
Rear axle, Empty/Loaded	54% / 70%	55% / 72%

ROPS	
ROPS/FOPS Standards	
<ul style="list-style-type: none"> • Rollover Protective Structure (ROPS) for cab offered by Caterpillar meets ISO 3471:2008 ROPS criteria. • Falling Objects Protective Structure (FOPS) meets ISO 3449:2005 Level II FOPS criteria. 	

Body Capacities – 100% Fill Factor		
Struck (Dual slope)	41.9 m³	54.8 yd³
Heaped volume (Dual slope), SAE 2:1	60.1 m³	78.6 yd³
Struck (Flat floor)	43.1 m³	56.4 yd³
Heaped volume (Flat floor), SAE 2:1	64.1 m³	83.8 yd³

*Contact your local Cat dealer for body options

Sound	
Sound Standards:	ISO 6396:2008
<ul style="list-style-type: none"> • 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. 	

Steering		
Steering standard	ISO 5010:2007	
Steering angle	30.5°	
Turning diameter	25.3 m	83 ft
Turning circle clearance diameter	28.4 m	93.2 ft

Tires	
Standard Tire 27.00R49 (E4)	
<ul style="list-style-type: none"> • 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. 	

System 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	125 L	33 gal
Front wheel (each)	7.5 L	2 gal

AEXQ2676-01 (8-2022)
Build Number: 05B
(Afr-ME, CIS, Asia Pacific,
SE Asia)

