

777

OFF-HIGHWAY TRUCK



Target Payload (100%)
Engine Model
Top Speed - Loaded

91.7 tonnes (101.1 ton)
Cat® C32B
65.9 km/h (40.9 mile/h)



THE CAT[®] 777 OFF-HIGHWAY TRUCK

The Cat[®] 777 is engineered to be the industry's most efficient 100-ton mechanical truck. With your input, we have designed and manufactured a reliable, durable, and economical truck, 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.



INCREASED FUEL EFFICIENCY

Utilizing Adaptive Economy mode helps save on fuel consumption while maintaining productivity.

ENHANCED OPERATOR COMFORT

Left-side seat placement allows for easier operation and comfort throughout the day with greater visibility to the work area.

IMPROVED PERFORMANCE AND DURABILITY

Get the job done faster and more efficiently with increased travel speeds and improved traction control.

ACHIEVE GREATER PRODUCTIVITY



- Haul your materials faster with an accelerated travel speed.
- Put more power to the ground with an 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.

LONG-TERM VALUE AND DURABILITY

PROVEN COMPONENTS FOR RELIABLE PERFORMANCE

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.
- + 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.



APPLICATION VERSATILITY

- + A Coal body option with 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's flat floor is perfect for metering material, especially when feeding the crusher.
- + Protect your truck's body life in high-impact, hard rock applications with the optional rubber liner – available for Dual Slope and X bodies.



BUILT TO PROTECT

- + 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 cameras and radar systems to identify potential hazards.

REDUCED MAINTENANCE COSTS

- + Grouped service points.
- + Control particulate matter (PM) with two engine-mounted diesel oxidation catalyst canisters. (Tier 4 only)
- + NOx Reduction System (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 exhaust gas recirculation (EGR) coolers utilize flexible tubes to be more robust to cooling loss and more durable. (Tier 4 only)

ENHANCED OPERATOR COMFORT

HELPING TO MAKE YOUR JOB EASIER AND MORE COMFORTABLE



SAFETY

Improvements in visibility gain enlarged views of the work area and its surroundings.



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.



CONTROLS

Enjoy the easy automotive-quality shifting with the new integrated hoist and transmission and automatic cab temperature controls.



INSTRUMENTS

Simplified operator interface with touchscreen display.



BEST-IN-CLASS LIGHTING

Advanced lighting with an LED lighting package.



CONFIDENCE

Access connectivity and decrease clutter with more storage areas with a redesigned cab.

TECHNOLOGY THAT GETS WORK DONE

TAKES THE GUESSWORK OUT OF MANAGING YOUR EQUIPMENT

PRODUCT LINK™/PRODUCT LINK ELITE HARDWARE

Product Link™ system connects to each machine wirelessly, allowing you to monitor location, hours, fuel use, productivity, idle time, and diagnostic codes.

VISIONLINK™

VisionLink™ wirelessly connects you to your equipment, giving you access to essential information you need to know to run your business.

MINESTAR™

The Cat 777 is MineStar™ ready and includes Cat Product Link Elite and Vital Information Management System (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.

OTHER INTEGRATED TECHNOLOGY

- 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 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.



TECHNICAL SPECIFICATIONS

See cat.com for complete specifications.

ENGINE – TIER 4 FINAL/STAGE V

Engine Model	Cat® C32B	
Rated Speed	1,800 rpm	
Gross Power – SAE J1995:2014	765 kW	1,025 hp
Net Power – SAE J1349:2011, ISO 9249:2007	683 kW	916 hp
Engine Power – ISO 14396:2002	752 kW	1,008 hp
Net Torque Speed @ 1,200 rpm	5044 N-m	3,720 lbf-ft
Net Torque Rise	39%	
Cylinders	12	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in³

- Net power available at the flywheel when the engine is equipped with fan, air cleaner, aftertreatment, 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.

ENGINE – TIER 2 EQUIVALENT

Engine Model	Cat C32B	
Rated Speed	1,800 rpm	
Gross Power – SAE J1995:2014	765 kW	1,025 hp
Net Power – SAE J1349:2011, ISO 9249:2007, 80/1269/EEC	704 kW	945 hp
Engine Power – ISO 14396:2002	755 kW	1,012 hp
Net Torque Speed @ 1,200 rpm	5286 N-m	3,899 lbf-ft
Net Torque Rise	37%	
Cylinders	12	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in³

- 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 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 4572 m (15,000 ft).
- Noncertified configuration that is equivalent to U.S. EPA Tier 2.

WEIGHTS - APPROXIMATE

Target Gross Machine Weight	164 654 kg	363,000 lb
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OPERATING SPECIFICATIONS

Target Payload (100%)	91.7 t	101.1 ton (US)
Top Speed – Loaded	65.9 km/h	40.9 mile/h
Maximum Working Payload (110%)	100.9 t	111.2 ton (US)
Maximum Allowable Payload (120%)*	110.1 t	121.3 ton (US)
Body Capacity - SAE 2:1	63.5 m³	83.1 yd³

Capacity with flat floor X Body with liner.

*Refer to the Caterpillar 10/10/20 Payload Policy for maximum gross vehicle weight limitations.

TRANSMISSION

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

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 Standards	ISO 3450:2011	
Brake Surface Area – Rear	102 116 cm²	15,828 in²
Brake Surface Area – Front	40 846 cm²	6,331 in²

BODY HOISTS

Pump Flow – High Idle	458 l/min	120.9 gal/min
Relief Valve Setting – Raise	18 950 kPa	2,750 psi
Relief Valve Setting – Lower	3450 kPa	500 psi
Body Raise Time – High Idle	15 s	15 s
Body Lower Time – Float	13 s	13 s
Body Lower Time – High Idle	13 s	13 s

CAPACITY - DUAL SLOPE - 100% FILL FACTOR

Struck	41.9 m³	54.8 yd³
Heaped (SAE 2:1)*	60.1 m³	78.6 yd³

Contact your local Cat dealer for body recommendation.

*ISO 6483:1980

WEIGHT DISTRIBUTIONS - APPROXIMATE

Front Axle - Empty	42 %	42 %
Front Axle - Loaded	33 %	33 %
Rear Axle - Empty	58 %	58 %
Rear Axle - Loaded	67 %	67 %

TECHNICAL SPECIFICATIONS *(CONTINUED)*

See cat.com for complete specifications.

SUSPENSION

Rear axle – Oscillation	5.4°	5.4°
Empty Loaded Cylinder Stroke Rear	66 mm	2.5 in
Empty Loaded Cylinder Stroke Front	74.7 mm	2.9 in

SERVICE REFILL CAPACITIES

Fuel Tank (1)	1136 L	300 gal (US)
Fuel Tank (2)	1325 L	350 gal (US)
Cooling System – Tier 4 Final	231 L	61 gal (US)
Cooling System – Tier 2	219 L	57.9 gal (US)
Crankcase	109 L	28.7 gal (US)
Differentials	227 L	59.9 gal (US)
Final Drive – Each	76 L	20 gal (US)
Steering System – Including Tank	53.6 L	14.1 gal (US)
Brake Hoist System	444 L	117 gal (US)
Torque Converter – Transmission System	138.5 L	36.5 gal (US)

TIRES

Standard Tire	27.00R49 (E4)
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Productive capabilities of the 777 truck are such that, under certain job conditions, tons kilometer per hour/tons mile per hour (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.

ROPS/FOPS

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

SOUND PERFORMANCE

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

Turning Diameter – Front	25.3 m	83 ft
Steering Standards	ISO 5010:2019	
Steer Angle	30.5°	30.5°
Turning Circle - Clearance Diameter	28.4 m	93 ft

CAPACITY - X BODY - 100% FILL FACTOR

Struck	43.1 m³	56.3 yd³
Heaped (SAE 2:1)*	64.1 m³	83.8 yd³

Contact your local Cat dealer for body recommendation.

*ISO 6483:1980

CAPACITY - COAL BODIES - 100% FILL FACTOR

SAE 2:1 – For use with material densities of 1160 kg/m³ (1,950 lb/yd³)	89.3 m³	116.8 yd³
SAE 2:1 – For use with material densities of 1040-1160 kg/m³ (1,750-1,950 lb/yd³)	106 m³	139 yd³
SAE 2:1 – For use with material densities of 950-1040 kg/m³ (1,600-1,750 lb/yd³)	110 m³	144 yd³
SAE 2:1 – For use with material densities less than 950 kg/m³ (1,600 lb/yd³)	125.9 m³	164.6 yd³

AIR CONDITIONING SYSTEM

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. Refer to the machine labeling for identification of the gas.
 - If equipped with R134a (Global Warming Potential = 1430), the system contains 1.9 kg (4.2 lb) of refrigerant which has a CO₂ equivalent of 2.71 metric tonnes (2.674 tons).
 - If equipped with R1234yf (Global Warming Potential = 0.501), the system contains 1.85 kg (4.1 lb) of refrigerant which has a CO₂ equivalent of 0.001 metric tonnes (0.001 tons)

STANDARD AND OPTIONAL EQUIPMENT

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

FLUIDS	STANDARD	OPTIONAL
Extended life coolant to -35° C (-30° F)	●	
OTHER OPTIONAL EQUIPMENT	STANDARD	OPTIONAL
Traction Control System (TCS)		●
OTHER STANDARD EQUIPMENT	STANDARD	OPTIONAL
Clustered grease fittings	●	
Body mounting group	●	
Body safety pin (secures body in up position)	●	
Body down indicator	●	
CD-ROM parts book	●	
Center-mounted rims	●	
Fuel tank (1136 L/300 gal)	●	
Ground-level battery disconnect	●	
Ground-level engine shutdown	●	
Ground-level grease fittings	●	
Reservoirs (separate)		
– Brake/hoist	●	
– Steering		
– Transmission/torque converter		
Rims 19.5 × 49	●	
Rock ejectors	●	
Supplemental steering (automatic)	●	
Tie down eyes	●	
Tow hooks (front)/Tow pin (rear)	●	
Vandalism protection locks	●	
Wiggins fast fuel	●	
OPERATOR ENVIORNMENT	STANDARD	OPTIONAL
Air conditioning	●	
Ashtray and cigarette lighter	●	
Coat hook	●	
Cup holders (4)	●	
Diagnostic connection port, 24V	●	
Entertainment radio ready		
– 5 amp converter	●	
– Speakers		
– Antenna		
– Wiring harness		
Gauges/indicators		
– Brake oil temperature gauge		
– Coolant temperature gauge		
– Hour meter		
– Tachometer	●	
– Engine overspeed indicator		
– Fuel level		
– Speedometer with odometer		
– Transmission gear indicator		
Heater/defroster (11 070 kCal/43,930 BTU)	●	
Auto temp control	●	

OPERATOR ENVIORNMENT (CONTINUED)	STANDARD	OPTIONAL
Hoist lever	●	
Horn, electric	●	
Light – dome	●	
Light – courtesy	●	
Load counter, automatic	●	
Touchscreen Advisor display	●	
Vital Information Management System (VIMS)	●	
Foot rest	●	
Mirrors – heated	●	
Power port, 24V and 12V (2)	●	
Rollover protective structure (ROPS) cab, insulated/sound suppressed	●	
Cat Comfort Series III		
– Full air suspension	●	
– Retractable 3-point seat belt with shoulder harness		
Steering wheel, padded, tilt and telescopic	●	
Storage compartment	●	
Sun visor	●	
Throttle lock	●	
Window, right side, hinged access/egress	●	
Electric left side window control	●	
Windshield wiper (intermittent) and washer	●	
Tinted, laminated glass	●	
Fluid level monitoring		●
Truck Production Management System (TPMS)		●
ELECTRICAL	STANDARD	OPTIONAL
Alarm, backup	●	
Alternator, 115 ampere	●	
Auxiliary jump start receptacle	●	
Batteries, maintenance-free, 12V (4), 200 amp-hour	●	
Electrical system, 25 AMP, 24V to 12V converter	●	
Lighting system (LED)		
– Backup light		
– Directional signals/hazard warning, (front and rear)		
– Headlights with dimmer	●	
– Payload, indicator lights		
– Operator access courtesy lights		
– Side profile lights		
– Stop/tail lights		
– Service lights		

STANDARD AND OPTIONAL EQUIPMENT *(CONTINUED)*

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

TECHNOLOGY PRODUCTS	STANDARD	OPTIONAL
Product Link™ Ready (Level 1)	●	
Adaptive economy mode	●	
Tons Kilometer Per Hour/Tons Mile Per Hour (TKPH/TMPH)		●
Object Detection (4 cameras, 4 radars)		●

POWERTRAIN	STANDARD	OPTIONAL
Autostall	●	
Engine idle shutdown	●	
Air-To-Air Aftercooler (ATAAC)	●	
Air cleaner with precleaner (2)	●	
Automatic cold mode idle control	●	
Electric priming pump	●	
Electric cold weather start (two starters and four batteries)	●	
Ether starting aid	●	
Exhaust, muffler	●	
Fuel filter/water separator	●	
Turbocharger (2)	●	
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, multiple disc (front/rear) – Parking – Secondary – Service	●	
Transmission – Auto neutral idle – Advanced Productivity Electronic Control Strategy (APECS) Software – Electronic Clutch Pressure Control (ECPC)	●	
Part Throttle Shifting – 7-speed automatic powershift with Torque Shift Management Electronic Clutch Pressure Control – Body up-shift inhibitor – Directional shift management – Downshift inhibitor – Neutral start switch – Neutral coast inhibitor – Reverse shift inhibitor – Reverse neutralizer during dumping – Programmable top gear selection	●	

SUSPENSION SYSTEMS	STANDARD	OPTIONAL
Suspension, rear	●	
GUARDS	STANDARD	OPTIONAL
Engine crankcase	●	
Driveline	●	
Fan and A/C	●	
OPTIONAL EQUIPMENT	STANDARD	OPTIONAL
Body heat		●
Body liners		●
Body sideboards		●
Cab precleaner		●
Cat Engine Brake		●
Cold weather packages		●
Fluid fill service center		●
High intensity discharge (HID)		●
Mirrors, convex		●
Spare rim		●
Visibility package (meets ISO 5006:2017 requirements)		●
Wheel chocks		●
Work Area Vision System (WAVS)		●

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

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Replaces AEXQ2696-01
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(Global)

