

777

OFF-HIGHWAY TRUCK



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

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



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.

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 cameras and radar systems 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 a redesigned 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.
- Advanced lighting with an LED lighting package.

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.

REDUCED MAINTENANCE COSTS AND OTHER 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)

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.



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.

TECHNICAL SPECIFICATIONS

Engine

| | | |
|--------------------------|------------|-----------------------|
| Engine Model | Cat® C32B | |
| Gross Power - SAE J1995 | 765 kW | 1,025 hp |
| Net Power - SAE J1349 | 683 kW | 916 hp |
| Bore | 145 mm | 5.7 in |
| Stroke | 162 mm | 6.4 in |
| Displacement | 32.1 l | 1,959 in ³ |
| Engine Power - ISO 14396 | 752 kW | 1,008 hp |
| Engine Speed | 1800 r/min | 1,800 r/min |
| Peak Torque - Speed | 1200 r/min | 1,200 r/min |
| Cylinders | 12 | |

Net Torque Rise Tier 4: 39%. Tier 2: 37%

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).

Available as U.S. EPA Tier 4 Final/EU Stage V equivalent, Tier 3/Stage IIIA equivalent, or Tier 2/Stage II equivalent emission standards.

Meets China Nonroad Stage III emission standards equivalent to Tier 3 or Tier 2.

Weights - Approximate

Target Gross Machine Weight 164 654 kg 363,000 lb

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 m ³ | 83.1 yd ³ |

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 cm ² | 15,828 in ² |
| Brake Surface Area - Front | 40 846 cm ² | 6,331 in ² |

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 m ³ | 54.8 yd ³ |
| Heaped (SAE 2:1)* | 60.1 m ³ | 78.6 yd ³ |

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 % |

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 | 231 l | 61 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)

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.

TECHNICAL SPECIFICATIONS

ROPS/FOPS

ROPS Standards Rollover Protective Structure (ROPS) for cab offered by Caterpillar meets ISO 3471:2008 ROPS criteria.

FOPS Standards Falling Objects Protective Structure (FOPS) meets ISO 3449:2005 Level II FOPS criteria.

Sound

Sound Standards (1) The operator Equivalent Sound Pressure Level (Leq) is 73 dB(A) when SAE J1166 FEB2008 is used to measure the value for an enclosed cab. This is a work cycle sound exposure level. The cab was properly installed and maintained. The test was conducted with the cab doors and the cab windows closed.

Sound Standards (2) The exterior sound pressure level for the standard machine measured at a distance of 15 m (49 ft) according to the test procedures specified in SAE J88:2008, mid-gear moving operation is 83 dB(A).

Sound Standards (3) 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 5010:2007

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

STANDARD & OPTIONAL EQUIPMENT

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

| | Standard | Optional | | Standard | Optional |
|---|----------|----------|--|----------|----------|
| FLUIDS | | | OPERATOR ENVIRONMENT (CONTINUED) | | |
| Extended life coolant to -35° C (-30° F) | ✓ | | Hoist lever | ✓ | |
| OTHER OPTIONAL EQUIPMENT | | | Horn, electric | ✓ | |
| Traction Control System (TCS) | | ✓ | Light – dome | ✓ | |
| OTHER STANDARD EQUIPMENT | | | Light – courtesy | ✓ | |
| Clustered grease fittings | ✓ | | Load counter, automatic | ✓ | |
| Body mounting group | ✓ | | Touchscreen Advisor display | ✓ | |
| Body safety pin (secures body in up position) | ✓ | | Vital Information Management System (VIMS™) | ✓ | |
| Body down indicator | ✓ | | Foot rest | ✓ | |
| CD-ROM parts book | ✓ | | Mirrors – heated | ✓ | |
| Center-mounted rims | ✓ | | Power port, 24V and 12V (2) | ✓ | |
| Fuel tank (1136 L/300 gal) | ✓ | | Rollover protective structure (ROPS) cab, insulated/sound suppressed | ✓ | |
| Ground level battery disconnect | ✓ | | Cat Comfort Series III – Full air suspension – Retractable 3-point seat belt with shoulder harness | ✓ | |
| Ground level engine shutdown | ✓ | | Steering wheel, padded, tilt and telescopic | ✓ | |
| Ground level grease fittings | ✓ | | Storage compartment | ✓ | |
| Reservoirs (separate) – Brake/hoist – Steering – Transmission/torque converter | ✓ | | Sun visor | ✓ | |
| Rims 19.5 × 49 | ✓ | | Throttle lock | ✓ | |
| Rock ejectors | ✓ | | Window, right side, hinged access/egress | ✓ | |
| Supplemental steering (automatic) | ✓ | | Electric left side window control | ✓ | |
| Tie down eyes | ✓ | | Windshield wiper (intermittent) and washer | ✓ | |
| Tow hooks (front)/Tow pin (rear) | ✓ | | Tinted, laminated glass | ✓ | |
| Vandalism protection locks | ✓ | | Fluid level monitoring | | ✓ |
| Wiggins fast fuel | ✓ | | Truck Production Management System (TPMS) | | ✓ |
| Attachment zone | ✓ | | ELECTRICAL | | |
| OPERATOR ENVIRONMENT | | | Alarm, backup | ✓ | |
| Air conditioning | ✓ | | Alternator, 115 ampere | ✓ | |
| Ashtray and cigarette lighter | ✓ | | Auxiliary jump start receptacle | ✓ | |
| Coat hook | ✓ | | Batteries, maintenance-free, 12V (4), 200 amp-hour | ✓ | |
| Cup holders (4) | ✓ | | Electrical system, 25 AMP, 24V to 12V converter | ✓ | |
| Diagnostic connection port, 24V | ✓ | | 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 | ✓ | |
| 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 | ✓ | | | | |

STANDARD & OPTIONAL EQUIPMENT

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

| | Standard | Optional |
|--|----------|----------|
| TECHNOLOGY PRODUCTS | | |
| 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 | | |
| 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 | | |

| | Standard | Optional |
|---|----------|----------|
| SUSPENSION SYSTEMS | | |
| Suspension, rear | ✓ | |
| GUARDS | | |
| Engine crankcase | ✓ | |
| Driveline | ✓ | |
| Fan and A/C | ✓ | |
| OPTIONAL EQUIPMENT | | |
| 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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