



Cat[®] 770

Off-Highway Truck

The Cat[®] 770 Off-Highway Truck is the ultimate solution for hauling performance in construction and quarry industries. With an extraordinary 40-ton payload, this truck sets the benchmark for efficiency and productivity. We've combined the best features of our off-highway truck lineup to boost the economics of your haul fleet. Elevate your operations with the Cat 770 Off-Highway Truck – where durability meets innovation.

Achieve Greater Productivity

- Move your material faster with increased travel speed.
- Get more power to the ground with higher torque.
- 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.

- Advanced productivity electronic control system (APECS) allows the engine and transmission to communicate on a high level. This communication allows the machine to better utilize the power and torque the engine is producing.
- Automatically optimize fuel consumption with the adaptive economy mode feature, which reduces fuel use without affecting productivity and can be engaged with a single button.
- Gain improvements in fuel efficiency with auto neutral idle.
- Optimize the fuel efficiency of your 770 Off-Highway Truck by maintaining an appropriate engine speed and selecting the correct gear through speed limiting.
- Conserve fuel through the integrated engine idle shutdown feature, which automatically activates when the truck is in park and remains idle for a predetermined duration.

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.
- Superior brake performance meets the latest brake standards – ISO 3450:2011.
- The ground-level engine shutoff switch stops all fuel to the engine when activated and shuts down the machine safely.
- Sturdy 4-point mounted cabin meets rollover protective structure/ falling objects protective structure (ROPS/FOPS) standard.
- 4-point seat belt provides enhanced safety to the operator.
- 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.

Work in Comfort

- The cab has been redesigned, setting a higher standard for visibility, comfort, and productivity.
- The operator seat placement provides easier operation and comfort to the operator.
- Improvements in enlarged views of the work area and its surroundings.
- Access connectivity and decrease clutter with more storage areas in the newly designed cab.
- Automatic cab temperature controls.
- Cat next-generation deluxe seat for better operator comfort.



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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™). Applicable to both U.S. EPA Tier 4 Final/ EU Stage V and U.S. EPA Tier 2 equivalent.
- Truck production management system (TPMS) provides accurate weighing of the materials, stores 2,400 payload cycles, and reports on 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 770 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.
- Advanced Health offers several benefits, including the ability to provide historical trends, histograms, and events through a wired connection. This allows for off-board analysis in various applications, making it easier to monitor and analyze data over time.
- Tonne-kilometers per hour/tons-miles per hour (TKPH/TMPH) tire management system works with TPMS for improved tire life.

Reduced Maintenance Cost and Other Costs

- Grouped service points.
- Control particulate matter (PM) with two engine-mounted diesel oxidation catalyst canisters. (Tier 4)
- NOx reduction system (NRS) technology replaces a portion of intake air with exhaust gas to control combustion temperatures and NOx production. (Tier 4)
- Parts commonality with other Cat equipment.
- Resolve problems before failure occurs with VIMS notifications.
- Torque converter stall (autostall) enables quick operating temperatures for best performance life.
- All LED lights provide longer life, brighter light, consume less power, and are more resistant to vibration or water damage.

Application Versatility

- Get the right body option – dual slope, flat floor, or quarry – for your material and jobsite needs.
- For haul profiles including steep slopes, an optional dual slope body is available – offering excellent material retention.
- The flat floor body is perfect for metering material, especially when feeding the crusher.
- Optimize your body life by selecting a liner package best suited for your application. We offer steel liners that work for most applications as well as rubber liners for extreme applications.

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
POWERTRAIN			OPERATOR ENVIRONMENT (CONTINUED)		
Air filter with precleaner (1)	✓		Mirrors, heated		✓
Air-to-air aftercooler (ATAAC)	✓		Power port, 12V	✓	
Automatic cold mode idle control	✓		Visibility package (WAVS)		✓
Auto neutral idle	✓		Rollover protective structure (ROPS) cab and falling object protective structure (FOPS) cab	✓	
Auto stall	✓		Seat, full air suspension, 4-point seat belt with shoulder harness	✓	
Braking system, hydraulic actuated: automatic retarder control (ARC) (utilizes rear oil-cooled, multiple disc brakes), brake release motor (towing), caliper-disc (front), extended life brakes, oil-cooled – multiple disc (rear), parking, secondary, service	✓		Steering wheel – padded, tilt, and telescopic	✓	
Brake wear indicator (Tier 4/Stage V)	✓		Throttle lock	✓	
Brake wear indicator (Tier 3 and Tier 2)		✓	Windshield wiper (intermittent) and washer	✓	
Cat C15 diesel engine	✓		TECHNOLOGY PRODUCTS		
Cat engine brake		✓	Product Link™	✓	
Electric start	✓		Traction control system (TCS)		✓
Engine idle shutdown	✓		Advanced Health	✓	
Second gear start	✓		Economy modes, standard and adaptive	✓	
Transmission – 7-speed automatic powershift with electronic clutch pressure control with advanced productivity electronic control strategy (APECS), body up-shift inhibitor, controlled throttle shifting, directional shift management, downshift inhibitor, neutral start switch, neutral coast inhibitor, reverse shift inhibitor, reverse neutralizer during dumping, programmable top gear selection	✓		OTHER		
Turbocharger	✓		Standard lube/auto lube		✓
ELECTRICAL			Body: flat floor, quarry, dual slope		✓
Alarm, backup	✓		Body heat/diverter box		✓
Batteries, maintenance-free, 12V (2), 190 amp-hour	✓		Body down indicator	✓	
Lighting system: backup light, directional signals/ hazard warning (front and rear LED), LED headlights with dimmer, operator access courtesy lights	✓		Body sideboards/liner		✓
OPERATOR ENVIRONMENT			Clustered lube	✓	
Advisor display	✓		Coolant heater		✓
Air conditioning	✓		Ether aid		✓
Diagnostic connection port, 24V	✓		Extended life coolant to -35° C (-30° F)	✓	
Entertainment radio ready: 5 amp converter, speakers, antenna, wiring harness	✓		Fan, hydraulic demand	✓	
Fluid and fuel system monitoring (Tier 4 only)	✓		Fuel heater		✓
Fluid and fuel system monitoring (Tier 3/2 only)		✓	Fuel tank (530 L/140 gal)	✓	
Gauges/indicators: service indicator – electronic, brake oil temperature gauge, coolant temperature gauge, hour meter, tachometer, engine overspeed indicator, fuel level, speedometer with odometer, transmission gear indicator	✓		Ground-level battery disconnect	✓	
Lights, halogen		✓	Ground-level engine shutdown	✓	
Mirrors	✓		Rear vision camera (WAVS)		✓
			Reservoirs (separate): brake/converter/hoist, steering, transmission/torque converter	✓	
			Rock ejectors	✓	
			Suspension, front and rear	✓	
			Spare rims		✓
			Wheel chocks		✓
			Vandalism protection locks	✓	
			Cab air filter	✓	
			Cab pre-cleaner		✓
			Truck production management		✓
			Tire management system		✓
			Adaptor fast fill – fuel		✓
			Guard, overhead		✓

Cat® 770 Off-Highway Truck

Technical Specifications

Engine – U.S. EPA Tier 4 Final/EU Stage V

Engine Model	Cat® C15	
Rated Power	1,700 rpm	
Gross Power – SAE J1995:2014	384 kW	515 hp
Net Power – SAE J1349:2011	356 kW	477 hp
Net Power – ISO 9249:2002	356 kW	477 hp
Net Power – 80/1296/EEC	365 kW	489 hp
Net Power – ISO 14396:2002	379 kW	508 hp
Net Torque – SAE J1349:2011	2486 N·m	1,834 lbf·ft
Number of Cylinders	6	
Bore	137 mm	5.4 in
Stroke	171 mm	6.7 in
Displacement	15.2 L	927.6 in³

- The power ratings are tested at the reference conditions for the specified standard.
- Net power advertised is the power available at the rated speed, measured at the flywheel when the engine is equipped with alternator, air cleaner, muffler, and fan.
- MIN NET SAE J1349:2011/ISO 9249:2007 Net power advertised is the power available at the flywheel when the engine is equipped with fan at maximum speed, air intake system, exhaust system, and alternator.
- Net torque rise meets SAE J1349.

Engine – U.S. EPA Tier 3 and 2 Equivalent

Engine Model	Cat C15	
Rated Power	1,800 rpm	
Gross Power – SAE J1995:2014	381 kW	511 hp
Net Power – SAE J1349:2011	360 kW	483 hp
Net Power – ISO 9249:2002	365 kW	489 hp
Net Power – 80/1296/EEC	365 kW	489 hp
Net Power – ISO 14396:2002	377 kW	506 hp
Net Torque – SAE J1349:2011	2280 N·m	1,682 lbf·ft
Number of Cylinders	6	
Bore	137 mm	5.4 in
Stroke	171 mm	6.7 in
Displacement	15.2 L	927.6 in³

- The power ratings are tested at the reference conditions for the specified standard.
- Net power advertised is the power available at the rated speed, measured at the flywheel when the engine is equipped with alternator, air cleaner, muffler, and fan.
- MIN NET SAE J1349:2011/ISO 9249:2007 Net power advertised is the power available at the flywheel when the engine is equipped with fan at maximum speed, air intake system, exhaust system, and alternator.
- Net torque rise meets SAE J1349.

Transmission – Tier 4 Final/Stage V

Forward 1	11.9 km/h	7.4 mph
Forward 2	16.3 km/h	10.1 mph
Forward 3	22.1 km/h	13.8 mph
Forward 4	29.7 km/h	18.5 mph
Forward 5	40.3 km/h	25.0 mph
Forward 6	54.4 km/h	33.8 mph
Forward 7	73.8 km/h	45.8 mph
Reverse	15.7 km/h	8.8 mph

- Maximum travel speeds with standard 18.00R33 (E4) tires.

Transmission – Tier 3 and 2 Equivalent

Forward 1	11.9 km/h	7.4 mph
Forward 2	16.3 km/h	10.1 mph
Forward 3	22.0 km/h	13.7 mph
Forward 4	29.6 km/h	18.4 mph
Forward 5	40.2 km/h	25.0 mph
Forward 6	54.2 km/h	33.7 mph
Forward 7	73.5 km/h	45.7 mph
Reverse	15.6 km/h	9.7 mph

- Maximum travel speeds with standard 18.00R33 (E4) tires.

Capacity – Dual Slope – 100% Fill Factor

Struck	17.6 m³	23.01 yd³
Heaped (SAE 2:1)*	25.2 m³	32.9 yd³

- Contact your local Cat dealer for body recommendation.

*ISO 6483:1980

Capacity – Flat Floor – 100% Fill Factor

Struck	17.6 m³	23.01 yd³
Heaped (SAE 2:1)*	25.2 m³	32.9 yd³

- Contact your local Cat dealer for body recommendation.

ISO 6483:1980

Capacity – Quarry Body – 100% Fill Factor

Struck	17.5 m³	22.9 yd³
Heaped (SAE 2:1)*	24.9 m³	32.6 yd³

- Contact your local Cat dealer for body recommendation.

ISO 6483:1980

Suspension

Empty Loaded Cylinder Stroke Front	234 mm	9.2 in
Empty Loaded Cylinder Stroke Rear	149 mm	5.9 in
Rear Axle Oscillation	8.9°	

Sound – Tier 4 Final/Stage V

Operator Sound Level (ISO 6396:2008)	80 dB(A)
Machine Sound Level (ISO 6395:2008)	117 dB(A)

Sound – Tier 3 and 2 Equivalent

Operator Sound Level (ISO 6396:2008)	81 dB(A)
Machine Sound Level (ISO 6395:2008)	117 dB(A)

- The operator sound pressure level is measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.
- The machine sound power level is measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. Refer to the machine labeling or 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).

Steering

Steering Standards	ISO 5010:2019	
Steer Angle	40.5°	
Turning Diameter – Front	17.6 m	57.7 ft
Turning Circle Clearance Diameter	20.3 m	66.6 ft

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Replaces: AEXQ3697-00

Build number: 07
(Global)