



CAT® 777 (07) WATER TRUCK

THE CHALLENGE: DUST. THE ANSWER: CAT® WATER SOLUTIONS.

Cat® Water Solutions helps you efficiently reduce haul road dust to enhance safety and increase productivity at your job site, quarry, or mine site. An integrated truck, tank, and water delivery system – paired with scalable levels of connectivity – helps you solve overwatering and underwatering issues with a focus on sustainable operations.

The exclusive Auto Mode feature enables operators to deliver a more efficient watering technique with enhanced precision and control – helping solve watering issues common with traditional manual watering operation.

This solution is sold and supported by the local Cat dealer you know and trust.

INTEGRATED DESIGN – DELIVERING PROVEN PERFORMANCE

- + Built on a proven Cat 777 truck platform.
- + Integrated design: truck, tank, and Cat Water Delivery System (WDS) connected with Cat MineStar™ technology.
- + Ergonomically designed in-cab controls for ease of use.

GAIN EFFICIENCY WITH THE CAT WATER DELIVERY SYSTEM (WDS)

- + Auto Mode provides variable water flow based on truck speed and determines appropriate flow to conserve water.
- + Automatic start and stop helps eliminate overwatering at road intersections.
- + Maintenance-free and self-cleaning water spray heads reduce truck downtime.

SCALABLE CONNECTIVITY WITH CAT MINESTAR™

- + Take control with near-real-time information hosted in the cloud.
- + Monitor water source and distribution, report status to remote management.
- + Service-based offering with scalable levels of connectivity to fit your needs: select between Basic or upgrade to Premium for a higher level of data-driven insights.

REDUCE COSTS, SUSTAINABLY

- + Gain more control of your operations using less water.
- + Auto Mode can help conserve water and reduce fuel costs.
- + Advanced technology connected to our water delivery system increases efficiency to help optimize your water truck fleet size.

ENHANCE SAFETY & PRODUCTIVITY AT YOUR QUARRY OR MINE SITE

- + Lower dust levels, increase visibility, maintain haul road safety.
- + Know where and when to water using advanced technology.
- + With automated water delivery, the operator can remain focused on traffic and driving.

CUSTOMIZATION WITH OPTIONS TO FIT YOUR OPERATIONS

- + We can help you choose a cannon nozzle, water tank, and spray head configuration based on your region and specific watering requirements.
 - » Choose number of spray heads mounted on rear spray bar, add optional side spray heads on the water tank for additional coverage, select cannon nozzle, and more.
 - » Hoist cylinder mounting enhances serviceability by raising the water tank for easier maintenance.
- + Optional WDS Camera System: includes a camera to view spray bar on back of water tank and two cameras on top of tank for water fill positioning.

SUPPORTED & BACKED BY THE ONE YOU TRUST

- + Full support of Cat dealer and parts network.
- + Cat dealer installation and retrofit kits available.
- + Eligible for Equipment Protection Plans (EPP) and Customer Value Agreements (CVAs).



777 (07) Water Solutions Truck Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

Specifications shown include the bare chassis and Cat Water Delivery System. Water tank specifications not included.

Engine

Engine Model	Cat® C32B	
Rated Engine 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
Emissions Rating	Fuel Optimized	
Peak Torque Speed @ 1,200 rpm	5044 N·m	3,720 lbf-ft
Cylinders	12	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in³

- Net Power advertised is the 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 2286 m (7,500 ft) for HRC and 4572 m (15,000 ft) for LRC machines.
- Available as Tier 4 Final/Stage V equivalent or Tier 2/Stage II equivalent emission standards.

Weights – Approximate

Target Gross Machine Weight (GMW)	164 654 kg	363,000 lb
Chassis Weight (CW)	52 262 kg	115,217 lb

Transmission

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

- 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

Braking System

Brake Surface – Front	40 846 cm ²	6,331 in ²
Brake Surface – Rear	102 116 cm ²	15,828 in ²
Brake Standards	ISO 3450:2011	

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	15.0 seconds	
Body Lower Time – Float	13.0 seconds	
Body Power Down – High Idle	13.0 seconds	

Weight Distributions – Approximate

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

Suspension

Empty Loaded Cylinder Stroke Front	74.7 mm	2.9 in
Empty Loaded Cylinder Stroke Rear	66.0 mm	2.5 in
Rear Axle Oscillation	+/- 5.4 °	

Steering

Steering Standards	ISO 5010:2019
Steer Angle	30.5°
Turning Diameter – Front	25.3 mm
Turning Circle Clearance Diameter	28.4 m

Tires

Standard Tire	27.00R49 (E4)
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- 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.

777 (07) Water Solutions Truck Specifications

Service Refill Capacities

Fuel Tank	1136 L	300 gal
Fuel Tank (optional)	1325 L	350 gal
Cooling System – Tier 4 Final	231 L	61 gal
Cooling System – Tier 2	219 L	57.9 gal
Crankcase	109 L	28.7 gal
Differentials	227 L	59.9 gal
Final Drives (each)	76 L	20 gal
Steering System (includes tank)	53.6 L	14.1 gal
Hoist and Brake Hydraulic System	444 L	117 gal
Front Wheels (each)	7.5 L	1.98 gal
Torque Converter/Transmission System	138.5 L	36.5 gal

Cat® Water Delivery System (WDS)

Operator selectable coverage	0.2-0.8 L/m ² (4 kph - 40 kph)	0.05-0.2 gal/ft ² (3 mph - 25 mph)
Maximum water flow	6814 L/min	1,800 gal/min
Water per spray head (minimum)	132.5 L/min	35 gal/min
Water per spray head (maximum)	2271 L/min	600 gal/min
Spray head opening range (minimum)	1 mm	0.04 in
Spray head opening range (maximum)	19 mm	0.75 in
Maximum size debris flushed through spray head	19 mm	0.75 in
Spray width per head (dependent on flow)	4.5-9.1 m	15-30 ft
Spray system hydraulic tank capacity	27.5 L	7.25 gal
Maximum number of rear spray heads	5	
Minimum number of rear spray heads (3 recommended)	2	
Maximum number of front/side spray heads	2	
Minimum number of front/side spray heads	0	
Maximum water from cannon (idle)*	2271 L/min	600 gal/min
Maximum water from cannon (high idle)*	6246 L/min	1,650 gal/min
Maximum cannon spray distance*	61 m	200 ft
Wet water pump/hydraulic motor coupling		

*Depends on nozzle orifice and pipe size.

- 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.
- ROPS for cab offered by Caterpillar meets ISO 3471:2008 for operator and ISO 13459:2012 for trainer.
- Falling Objects Protective Structure (FOPS) meets ISO 3449:2005 Level II for operator and ISO 13459:2012 Level II for trainer.
- Coverage rates above 0.6 L/m² may not be available at higher speeds depending on head count and configuration.
- The Auto Mode setting controls water coverage and automatically adjusts to the number of spray heads being used — independent of ground speed. This is an exclusive feature designed into the Cat® WDS software to help water more efficiently.
- Alternatively, manual mode allows the operator to set a water flow rate that is constant regardless of ground speed. This mode is not recommended for daily operation and will reduce watering efficiency and may increase fuel usage.
- Spray head opening is automatically controlled by the system to achieve Auto Mode Coverage or manual mode flow rate.
- Spray heads on competitive water distribution systems require tools and maintenance to change flow and spray pattern. Caterpillar is the only company to have variable active spray heads to regulate water spray.
- Water flow is continually adjusted during operation to conserve water and achieve desired coverage and flow rate.
- Water tanks are offered by local 3rd party providers with customization based on water application and regional customer requirements. Please contact your local Cat dealer, regional OEM Solutions Account manager, or email OEM_Solutions@cat.com for more information on water tank options and attachments.

777 (07) Water Solutions Truck Specifications

In-Cab Water Controls



1

Keypad to select and control the number of spray heads with buttons for intermittent spray, head cleaning, pump on / off, water cannon on / off, tank fill percentage, and adjustments for water flow rate.

2

Joystick for cannon control with adjustable spray selection. Choose a stream or fan spray when watering the pile or mining face. The cannon may also be used for fire mitigation.

3

Integrated touchscreen with user interface for configuring the water delivery system with real-time indicator of water tank level, cannon, and spray head operation. Optional Cat WDS cameras may also be viewed in this screen.

777 (07) Water Solutions Truck Specifications

Cat MineStar Connectivity comes standard on all new Cat Water Solutions trucks with two package options.

MINESTAR CONNECTIVITY FEATURES*	LEVEL 1: BASIC** Equipment Tracking	LEVEL 2: PREMIUM Equipment Tracking + Production Recording
Near-real-time and historical reporting.	●	●
Truck location / utilization data: routes, starts, and stops.	●	●
Fuel and water level.	●	●
Whether or not the truck is spraying water.	●	●
Water Delivery System Utilization. (Auto Mode vs. manual mode)	●	●
Home Page View.	●	●
Home Page View with Cumulative and Hourly graphs.		●
Water Distribution Map.		●
Volume of water put down over time and area covered.		●
Water distribution rate, water delivery system setting by location, truck, and conditions.		●
Activity breakdown including time and distance: watering, not watering, stopped, etc.		●
Water dispensed by time/rate and mode, last 5 water activities, water dispensed by age.		●
View and export at least 8 weeks of historical water activity data.		●
Replay provides the ability to review and replay shifts by selecting a historical date and time. Review water level, pump on/off, heads on/off, cannon on/off, WDS Mode (Manual or Auto Mode), and coverage rates.		●
In-cab reporting to operator on water coverage and need: route, heat map, decay map. ¹		●
Future enhancements and new feature developments.		●

*Based on equipment connectivity via WiFi or cellular data. **Basic Connectivity Package comes standard on new truck purchase with a 6-month complimentary service-based offering for better data insights.¹ Feature included in future update.

777 (07) Water Solutions Truck Specifications

Standard and Optional Equipment

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

	Standard	Optional	Standard	Optional
POWERTRAIN			OPERATOR ENVIRONMENT	
Air filter with precleaner (2)	•		Advisor touchscreen display	•
Air-to-Air Aftercooler (ATAAC)	•		Air conditioning	•
Automatic cold mode idle control	•		Ashtray and cigarette lighter	•
Autostall	•		Auto temp control	•
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 and multiple disc (front/rear), parking, secondary, service	•		Coat hook	•
Cat® C32B Engine (Tier 4 Final / EU Stage V / Tier 2 / EU Stage II)	•		Cup holders (4)	•
Cat engine compression brake	•		Diagnostic connection port, 24V	
Cold weather packages		•	Electric left side window control	•
Electric cold weather start (two starters and four batteries)	•		Entertainment radio ready: 5 amp converter, speakers, antenna, wiring harness	•
Electric priming pump	•		Footrest	•
Engine Idle Shutdown	•		Gauges/indicators: brake oil temperature, coolant temperature, hour meter, tachometer, engine overspeed indicator, fuel level, speedometer with odometer, transmission gear indicator	•
Ether starting aid	•		Heater/defroster (11 070 kCal/43,930 BTU)	
Extended life coolant to -35° C (-30° F)	•		Integrated hoist and transmission control	•
Fan - variable speed (Tier 4)	•		Horn, electric	•
Fan - variable speed (Tier 2)		•	Lights: dome, courtesy	•
Fuel filter/water separator	•		Load counter, automatic	•
Muffler, exhaust (Tier 2)	•		Mirrors, convex	•
Muffler, sound suppression (Tier 2)	•		Mirrors, heated	•
Transmission: 7-speed automatic powershift with Electronic Clutch Pressure Control (ECPC), torque shift management, part throttle shifting, body upshift inhibitor, directional shift management, downshift inhibitor, neutral start switch, neutral coast inhibitor, reverse shift inhibitor, reverse neutralizer during dumping, programmable top gear selection, Advanced Productivity Electronic Control Strategy (APECs software), auto neutral Idle	•		Power port, 12V (2)	•
Turbocharger (2)	•		ROPS cab, insulated/sound suppressed	•
ELECTRICAL			Seat, Cat Next Gen Deluxe, retractable 4-point seat belt with shoulder harness and seat belt reminder	•
Alarm, backup	•		Spare rim	•
Alternator, 115 amperes	•		Steering wheel, padded/tilt/telescopic	•
Auxiliary jump start receptacle	•		Storage compartment	•
Batteries, maintenance-free, 12V (4), 200 amp-hour	•		Sun visor	•
Electrical system, 25 amp, 24V to 12V converter	•		Throttle lock	•
Lighting system (LED): backup light, directional signals/hazard warning (front and rear), headlights, payload – indicator lights, operator access courtesy lights, side profile lights, stop/taillights, service lights	•		Tinted, laminated glass	•
			Truck Production Management System (TPMS)	•
			Visibility package (meets ISO 5006 requirements)	•
			Window, right side, hinged access/egress	•
			Windshield wiper, intermittent, and washer	•

777 (07) Water Solutions Truck Specifications

Standard and Optional Equipment

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

	Standard	Optional	Standard	Optional
CAT TECHNOLOGY PRODUCTS				
Cat Water Delivery System software	•		Auto-lube grease fittings	•
Adaptive economy mode	•		Body down indicator	•
Advanced health	•		Body mounting group	•
Object detection (2 cameras)	•		Body safety pin (secures body in up position)	•
Object detection (4 cameras)		•	Cab precleaner	•
Product Link™	•		Center-mounted rims	•
Road analysis control (RAC)		•	Clustered grease fittings	•
Work Area Vision System (WAVS)		•	Control, hoist	•
Cat MineStar™ hardware and connectivity packages:				
• Level 1 - Basic (Equipment Tracking)*	•		Driveline guards	•
• Level 2 – Premium (Equipment Tracking + Production Recording)		•	Engine crankcase guards	•
*Basic connectivity package comes standard on all new Cat Water Solutions trucks with a 6-month complimentary service-based offering				
CAT WATER DELIVERY SYSTEM (WDS)				
Controls:				
• Factory installed	•		Fuel tank (1136 L / 300 gal)	•
• Integrated into cab	•		Fuel tank (1325 L / 350 gal)	•
Water System Monitor:				
• Integrated into cab	•		Ground-level battery disconnect	•
• Programmable spray configurations	•		Ground-level engine shutdown	•
• Automatic diagnostic messages	•		Ground-level grease fittings	•
Variable Hydraulic Pump Drive:				
• 1,800 gpm at speeds of 4 - 40 kph (3 - 25 mph)	•		Mud protection package	•
• Auto shut-off	•		Oil Renewal System	•
• Soft startup	•		Rear Axle Filtration (RAX)	•
Stainless Steel Spray Heads:				
• Resists corrosion	•		Reservoirs (separate): brake/hoist, steering, transmission/torque converter	•
• Maintenance free	•		Rims 19.5 x 49	•
• Patented design	•		Rock ejectors	•
Independent Hydraulic Cooling System:				
• Minimizes overheating	•		Supplemental steering, automatic	•
Water Cannon:				
• Hydraulically controlled	•		Tie down eyes	•
• Optional nozzles		•	Tow hooks, front/tow pin, rear	•
• Integrated joystick with cab controls	•		Traction Control System (TCS) (new version)	•
WDS Camera System: includes three cameras, three camera washers and cable assemblies				
Parts and service available through global Cat dealer network				
WATER TANKS				
Water tanks are offered by local 3rd party providers with customization based on water application and regional customer requirements.				
Options include: tie offs, ladders, splash guards, fill chute, rock ejectors, hose reels, working lights, and other options based on request.				
Spray bar for 3-5 Cat WDS spray heads				
Side spray mounting for Cat WDS spray heads				

Please contact your local Cat dealer, regional OEM Solutions Account manager, or email OEM_Solutions@cat.com for more information on water tank options and attachments.

For more information on Cat products, dealer services, and industry solutions, contact your local Cat dealer or Caterpillar OEM Solutions oem_solutions@cat.com | www.cat.com/oemsolutions.

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

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