



CAT[®] 777₍₀₅₎

WATER SOLUTIONS 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. A fully integrated truck, tank, sprayer, and water delivery system – connected with scalable levels of technology helps you solve overwatering and underwatering issues with a focus on sustainable operations.

This turnkey solution with Cat branded tank offerings is sold and supported by the local Cat dealer you know and trust.

FULLY INTEGRATED CAT WATER TRUCK

- + Built on a proven Cat 777 truck platform
- + Full system integration: truck, tank, and Cat Water Delivery System (WDS) connected with Cat MineStar Edge™ technology
- + Supported, offered, and validated by Caterpillar

SCALABLE CONNECTIVITY WITH CAT MINESTAR EDGE™

- + Gain an Edge with real-time information hosted in the cloud
- + Monitor water source and distribution, report status to remote management
- + Service-based offering with scalable levels of technology to fit your needs

GAIN EFFICIENCY WITH THE CAT WATER DELIVERY SYSTEM (WDS)

- + Provides variable water flow based on truck speed and determines appropriate flow to conserve water
- + Automatic start and stop eliminates over-watering at road intersections
- + Maintenance-free and self-cleaning water spray heads reduce truck downtime
- + The water cannon operates at idle, reducing fuel consumption by 50%

REDUCE COSTS, SUSTAINABLY

- + Gain more control of your operations using less water
- + Control water, control cost
- + Technology connected to our water delivery system increases efficiency to help optimize your water truck fleet size

ENHANCE SAFETY & PRODUCTIVITY AT YOUR QUARRY, MINE, OR JOB SITE

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

CAT BRANDED TANK OFFERINGS WITH OPTIONS

- + Cat branded tanks include additional features and options commonly selected by customers in the industry
 - Splash guards, fill chute, and rock ejectors are standard
- + Hoist cylinder mounting on all tank offerings enhances serviceability
- + Manufactured and supplied by recognized tank providers – covered by a Caterpillar warranty

SUPPORTED & BACKED BY THE ONE YOU TRUST

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



777 (05) Water Solutions Truck Specifications

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

Engine

Engine Model	Cat® C32B	
Rated Engine Speed	1,800 rpm	
Gross Power – SAE J1995	765 kW	1,026 hp
Net Power – SAE J1349 / ISO 9249:1997	711 kW	953 hp
Cylinders	12	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in ³

- Net Power advertised is the power available at the flywheel when the engine is equipped with air intake system, exhaust system, and alternator.
- 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.

Weights – Approximate

Rated Gross Machine Weight (RGMW)	163 360 kg	360,147 lbs
-----------------------------------	------------	-------------

Transmission

Forward 1	10.9 km/h	6.8 mph
Forward 2	14.8 km/h	9.2 mph
Forward 3	20.1 km/h	12.6 mph
Forward 4	27.1 km/h	16.9 mph
Forward 5	36.8 km/h	22.9 mph
Forward 6	49.4 km/h	30.7 mph
Forward 7	67.1 km/h	41.7 mph
Reverse	12.1 km/h	7.5 mph

- Maximum travel speeds with standard 27.00R49 (E4) tires.

Final Drives

Differential Ratio	2.74:1	
Planetary Ratio	7.0:1	
Total Reduction Ratio	19.16:1	

Braking System

Brake Surface – Front Dry	2787 cm ²	432 in ²
Brake Surface – Rear	102 116 cm ²	15,828 in ²
Brake Surface – Front Wet (optional)	40 846 cm ²	6,331 in ²
Brake Standard	ISO 3450:2011	

Body Hoists

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	46%	
Front Axle – Loaded	30%	
Rear Axle – Empty	54%	
Rear Axle – Loaded	70%	

Suspension

Effective Cylinder Stroke – Front	318 mm	12.5 in
Effective Cylinder Stroke – Rear	165 mm	6.5 in
Rear Axle Oscillation	±5.4°	

Steering

Steer Angle	30.5°	
Turning Diameter – Front	25.3 m	83 ft
Turning Circle Clearance Diameter	28.4 m	93.2 ft
Steering Standards	ISO 5010:2007	

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.

Service 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 (includes tank)	60 L	16 gal
Brake/Hoist System	420 L	110 gal
Torque Converter/ Transmission System	125 L	33 gal

777 (05) Water Solutions Truck Specifications

Cab

Air Conditioning	42 789 kJ/kg	18,390 BTU/lb
Heater / Defroster	11 070 kCal	43,930 BTU

- 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.
- Rollover protective structure (ROPS) 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 FOPS for trainer.

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	3785 L/min	1,200 gal/min
Water per spray head (minimum)	130 L/min	35 gal/min
Water per spray head (maximum)	2270 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 (recommended 3)	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)	4732 L/min	1,250 gal/min
Maximum cannon spray distance	61 m	200 ft

Wet water pump/hydraulic motor coupling

- Coverage rates above 0.6 L/m² may not be available at higher speeds depending on head count and configuration.
- Opening is automatically controlled by the system to achieve AutoMode Coverage or Manual Mode Flow Rate.
- AutoMode Spray controls water coverage automatically to the number of heads being used and ground speed achieved.
- Manual Mode allows the operator to set a water flow rate that is constant regardless of ground speed.
- 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.

777 (05) Water Solutions Truck Specifications

Tank Configurations

Multiple tank configurations are offered based on customer preference and regional locations.

	South America, Africa, Middle East		South America, Africa, Middle East, Australia / New Zealand		Australia / New Zealand	
Water Tank Capacity	75 700 L	20,000 gal	75 700 L	20,000 gal	75 400 L	19,900 gal
Bare Chassis Weight	48 133 kg	106,115 lb	48 133 kg	106,115 lb	48 133 kg	106,115 lb
Water Tank - Max Empty Weight (no WDS)	20 000 kg	44,092 lb	20 412 kg	45,000 lb	19 497 kg	42,983 lb
Empty Machine Weight (with water tank)	68 133 kg	150,207 lb	68 545 kg	151,115 lb	67 630 kg	149,098 lb
Machine Weight (with water tank full)	144 633 kg	318,862 lb	144 589 kg	318,765 lb	143 047 kg	315,365 lb
Fuel tank capacity	1136 L	300 gal	1136 L	300 gal	1136 L	300 gal
Fuel tank - 100% fill	955 kg	2,106 lb	955 kg	2,106 lb	955 kg	2,106 lb
Empty Machine Operating Weight (without water / with fuel)	69 088 kg	152,313 lb	69 500 kg	153,221 lb	68 585 kg	151,204 lb
Target Gross Machine Weight (GMW)*	163 360 kg	360,148 lb	163 360 kg	360,148 lb	163 360 kg	360,148 lb

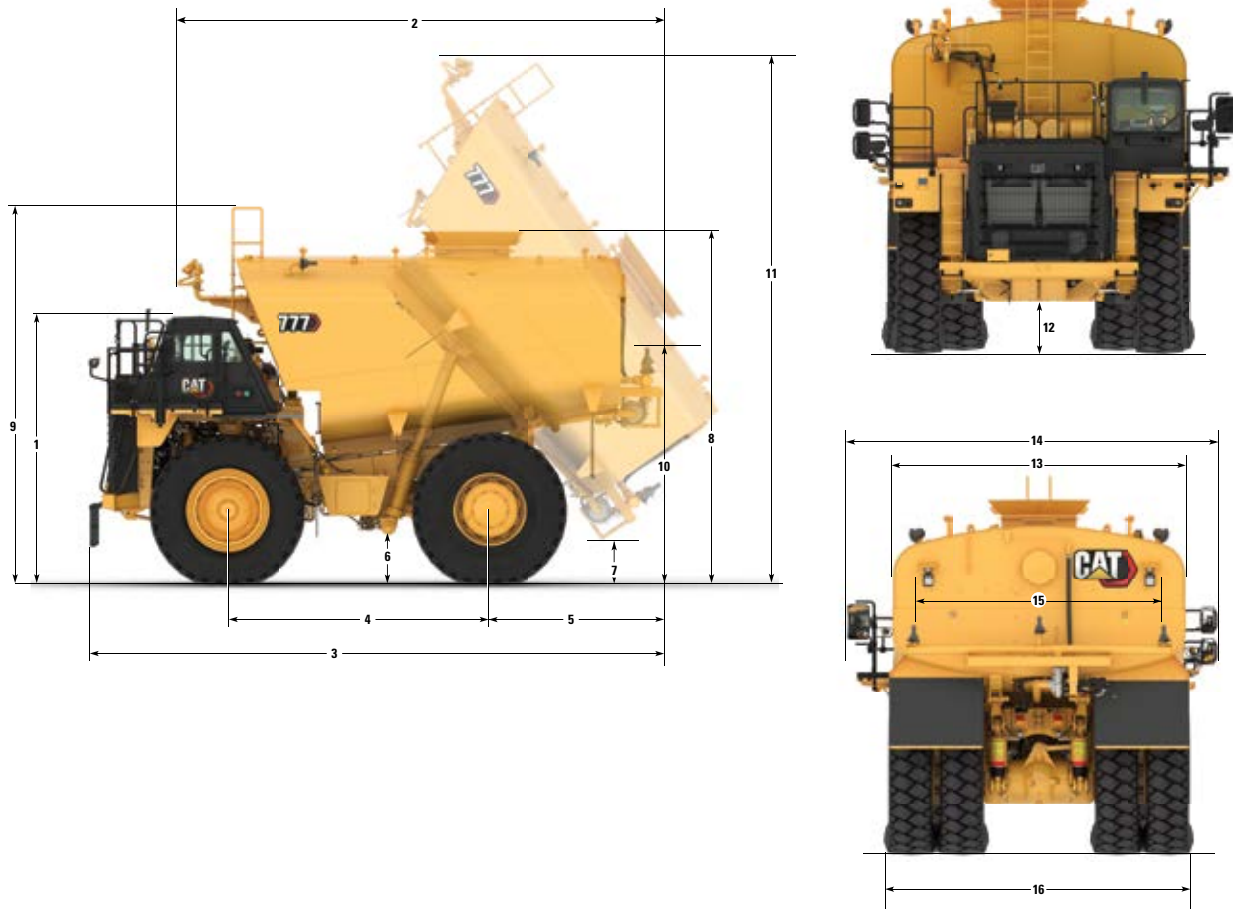
NOTE: Machine weights based on configuration. *Target GMW not to exceed weight in above table after attachments are installed.
For truck rimpull and retarding curves, please reference the 777 (05) Off-Highway technical specifications document.



777 (05) Water Solutions Truck Specifications

Dimensions

All dimensions are approximate. Shown with Ground Force Tank.



	Ground Force		Mega		SVA	
	60 degree raised		53 degree raised		60 degree raised	
1 Height to Top of ROPS	4730 mm	15' 6"	4730 mm	15' 6"	4730 mm	15' 6"
2 Overall Tank Length	8434 mm	27' 8"	7642 mm	25' 1"	7982 mm	26' 2"
3 Overall Machine Length	10 643 mm	34' 11"	10 308 mm	33' 10"	10 769 mm	35' 4"
4 Wheelbase	4570 mm	15' 0"	4570 mm	15' 0"	4570 mm	15' 0"
5 Rear Axle to Tail	3045 mm	10' 0"	3045 mm	10' 0"	3045 mm	10' 0"
6 Ground Clearance	896 mm	2' 11"	896 mm	2' 11"	896 mm	2' 11"
7 Ground Clearance (tank raised)	666 mm	2' 2"	815 mm	2' 8"	228 mm	0' 9"
8 Height to Tank Fill/Coaming	6135 mm	20' 2"	5980 mm	19' 7"	6526 mm	00' 00"
9 Height to Tank Handrails / Ladder on Top	6595 mm	21' 8"	6562 mm	21' 6"	6526 mm	21' 5"
10 Ground Height to Spray Heads	3880 mm	12' 9"	3024 mm	9' 11"	2607 mm	8' 7"
11 Overall Height (tank raised)	9240 mm	30' 4"	8955 mm	29' 5"	8983 mm	29' 6"
12 Engine Guard Clearance	864 mm	2' 10"	864 mm	2' 10"	864 mm	2' 10"
13 Base Fabricated Tank Width	5002 mm	16' 5"	5547 mm	18' 2"	5674 mm	18' 7"
14 Standard Truck Operating Width to Outside Mirrors	6545 mm	21' 6"	6545 mm	21' 6"	6545 mm	21' 6"
15 Outside Spray Head Centerline Width	4267 mm	14' 0"	5061 mm	16' 7"	4250 mm	13' 11"
16 Overall Tire Width	5262 mm	17' 4"	5262 mm	17' 4"	5262 mm	17' 4"

777 (05) Water Solutions Truck Specifications

Standard and Optional Equipment

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

	Standard	Optional
POWERTRAIN		
Cat C32B diesel engine	•	
Auto electric fuel priming pump	•	
Biodiesel compatibility, B30	•	
Brake release motor (towing)	•	
Braking system: Hydraulically actuated brakes with oil cooled multiple disc (rear) and caliper disc (front), hydraulically applied and spring released	•	
Cat transmission: 7F/1R speed planetary powershift, ECPC control, APECS software, programmable top gear/speed selection, body upshift inhibitor, directional shift management, neutral start switch, neutral coast inhibitor, reverse shift inhibitor, body-up reverse neutralizer, 2nd gear drive, torque shift management, and part throttle shifting	•	
Economy mode/adaptive economy mode	•	
Emergency/parking brake, spring applied and hydraulically released	•	
Engine overspeed protection	•	
Retarder control – manual	•	
Water/fuel separator	•	
Front oil cooled disc brake		•
Traction control system		•
Retarder control – automatic		•

ELECTRICAL		
Access system lights, LED	•	
Alternator, 150 amp	•	
Auxiliary jump start receptacle	•	
Backup alarm	•	
Backup light, LED	•	
Directional signal/hazard warning, LED lights	•	
Electrical system, 10 amp, 24V to 12V converter	•	
Four batteries, 12V, 190 amp-hour	•	
Ground-level battery disconnect switch	•	
Ground-level engine shutdown switch	•	
Headlights with dimmer, LED	•	
Operator courtesy lights, LED	•	
Stop/taillights, LED	•	
Switch, engine lockout	•	
Switch, machine lockout	•	
Two starter motors	•	
Working lights, LED	•	
Audio visual backup alarm		•
Fog lamp		•
Vital Information Management System (VIMS™)		•

	Standard	Optional
OPERATOR ENVIRONMENT		
Advisor, touchscreen display	•	
Ash tray	•	
Coat hook	•	
Combined gear shift/hoist/park brake lever	•	
Cup/bottle holder	•	
Diagnostic connection port	•	
Horn electric	•	
HVAC	•	
Liquid crystal display (LCD), cluster gauge: brake oil temperature, transmission oil temperature, engine coolant temperature, hour meter, tachometer, fuel level gauge, speedometer	•	
Left side power window	•	
Mirrors, left and right	•	
Radio ready	•	
Right side access door	•	
ROPS/FOPS cabin	•	
Seat, trainer with lap belt	•	
Seat: operator – fully adjustable, air suspension, 4-point seat belt with reminder	•	
Storage compartment	•	
Sun visor	•	
Switches: throttle lock, wipers/washers, hazard lights, headlights, secondary steering, back light adjust, AC on/off, spare, economy mode, egress lamp, Product Link™ disconnect	•	
Tilt and telescopic steering wheel	•	
Heated mirror		•

777 (05) Water Solutions Truck Specifications

Standard and Optional Equipment

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

	Standard	Optional
CAT TECHNOLOGY PRODUCTS		
Cat Detect system		•
Product Link™	•	
Camera system		•
Cat MineStar Edge™ :		
• Level 1 - Basic (Equipment Tracking)*	•	
• Level 2 - Premium (Production Recording)		•
*Basic connectivity package comes standard on all Cat Water Solutions trucks with a 6-month complimentary service-based offering		

CAT WATER DELIVERY SYSTEM (WDS)

Controls:

• Factory installed	•	
• Integrated into cab	•	

Water System Monitor:

• Integrated into cab	•	
• Programmable spray configurations	•	
• Automatic diagnostic messages	•	

Variable Hydraulic Pump Drive:

• 1,200 gpm at speeds of 3 to 25 mph	•	
• Auto shut-off	•	
• Soft startup	•	

Stainless Steel Spray Heads:

• Resists corrosion	•	
• Maintenance free	•	
• Patented design	•	

Independent Hydraulic Cooling System:

• Minimizes overheating	•	
-------------------------	---	--

Water Cannon:

• Hydraulically controlled	•	
• Optional nozzles		•
• Integrated joystick with cab controls	•	

WDS Camera System: includes three cameras, three camera washers and cable assemblies

		•
--	--	---

Parts & service available through global Cat dealer network

	Standard	Optional
OTHER EQUIPMENT		
Body down indicator	•	
Body mounting group	•	
Body safety pin	•	
Driveline guard	•	
Engine crankcase guard	•	
Extended life coolant to -35°C (-30°F)	•	
Ground-level grease fittings	•	
Hydropneumatic suspension	•	
Tie down eyes/tow down hooks	•	
Vandalism protection lock	•	
Automatic lubrication system (27 kg/40 kg)		•
Cluster/grouped lubrication system		•
Cold weather package		•
Exhaust muffler		•
Fast fluid fill system		•
Fast fuel fill system		•
Fire extinguisher		•
High speed engine oil change system		•
Hydraulic power port		•
Wheel chocks		•

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

© 2023 Caterpillar
All rights reserved

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

CAT, CATERPILLAR, LET'S DO THE WORK, their respective logos, "Caterpillar Corporate Yellow," the "Power Edge" and Cat "Modern Hex" trade dress as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

AEXJ0143-01 (07-2023)
(Build Number: 05C)
(South America, Africa, Middle
East, Australia, New Zealand)

