

PRODUCT SPECIFICATIONS FOR 777 (07) WATER TRUCK



ENGINE

Engine Model	Cat® C32B
Gross Power - SAE J1995	765 kW
Engine Speed	1800 r/min
Net Power - SAE J1349	683 kW
Emissions	Fuel Optimized
Cylinders	12
Bore	145 mm
Stroke	162 mm
Displacement	32.1 l
Note (1)	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.
Note (2)	Power rating applies at 1,800 rpm when tested under the specified condition for the specified standard.
Note (3)	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).
Note (4)	No engine derating required up to 2286 m (7,500 ft) for Tier 4/Stage V.
Note (5)	Available as Tier 4 Final/Stage V equivalent, Tier 3/Stage IIIA equivalent, or Tier 2/Stage II equivalent emission standards.

TANK CONFIGURATIONS

Water Tank Capacity up to 75 700 L (20,000 gal)

Note Multiple tank configurations are offered based on customer preference and regional locations. Water Tank Capacity Range: 75 400 - 75 700 L (19,900 - 20,000 gal)

Machine Weight (with water tank full) 327,964 - 327,964 lb / 147 172 - 148 762 kg

Empty Machine Operating Weight (without water / with fuel) 160,307 - 162,323 lb / 72 714 - 73 629 kg

Water Tank - Max Empty Weight (no WDS) 42,983 - 44,092 lb / 19 497 - 20 000 kg

Note (1) Cat branded tanks include additional features and options commonly selected by customers in the industry. Splash guards, fill chute, and rock ejectors are standard.

Note (2) Hoist cylinder mounting on all tank offerings enhances serviceability.

OPERATING SPECIFICATIONS

Top Speed - Loaded 67.1 km/h

Note Water Tank Capacity Range: 69 700 - 75 700 L (18,400 - 20,000 gal)

Note (2) Operator selectable coverage: 0.2-0.8 L/m² (4 kph - 40 kph) / 0.5-0.2 gal/ft² (3 mph - 25 mph)

WEIGHTS - APPROXIMATE

Target Gross Machine Weight 164654 kg

Chassis Weight 52262 kg

BRAKING SYSTEM

Brake Surface - Front 40846 cm²

Brake Surface - Rear 102116 cm²

Brake Standards ISO 3450:2011

BODY HOISTS

Pump Flow - High Idle 458 l/min

Relief Valve Setting - Raise 18950 kPa

Relief Valve Setting - Lower 3450 kPa

Body Raise Time - High Idle 15 s

Body Lower Time - Float 13 s

Body Lower Time - High Idle 13 s

SUSPENSION

Empty Loaded Cylinder Stroke Front 74.7 mm

Empty Loaded Cylinder Stroke Rear 66 mm

Rear axle - Oscillation 5.4 °

STEERING

Steering Standards ISO 5010:2007

Steer Angle 30.5 °

Turning Diameter - Front 25.3 m

Turning Circle - Clearance Diameter 28.4 m

TIRES

Standard Tire 27.00R49 (E4)

Note (1) 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.

Note (2) Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

SERVICE REFILL CAPACITIES

Fuel Tank (1) 1136 l

Fuel Tank (2) 1325 l

Cooling System 240 l

Crankcase 109 l

Differentials 227 l

Final Drive - Each 76 l

Steering System - Including Tank 53.6 l

Brake Hoist System 322 l

Torque Converter - Transmission System 138.5 l

CAB

Air Conditioning 42789 Btu/kWh

**Heater /
Defroster** 11070 kJ/kg

**ROPS Standards
(1)** 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.

Note (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.

Note (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).

Note (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.

CAT WATER DELIVERY SYSTEM (WDS)

Maximum water flow 3785 l/min

Water per spray head (minimum) 130 l/min

Water per spray head (maximum) 2270 l/min

Spray head opening range (minimum) 1 mm

Spray head opening range (maximum) 19 mm

Maximum size debris flushed through spray head 19 mm

Spray system hydraulic tank capacity 27.5 l

Maximum number of rear spray heads 5

Minimum number of rear spray heads (recommended 3)	2
Minimum number of front/side spray heads	2
Maximum number of front/side spray heads	0
Maximum water from cannon (idle)	2271 l/min
Maximum water from cannon (high idle)	4732 l/min
Maximum cannon spray distance	61 m
Type	Wet water pump/hydraulic motor coupling
Note	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). Coverage rates above 0.6 L/m ² may not be available at higher speeds depending on head count and configuration.
Note (1)	Opening is automatically controlled by the system to achieve AutoMode Coverage or Manual Mode Flow Rate.
Note (2)	AutoMode Spray controls water coverage automatically to the number of heads being used and ground speed achieved.
Note (3)	Manual Mode allows the operator to set a water flow rate that is constant regardless of ground speed.
Note (4)	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.
Note (5)	Water flow is continually adjusted during operation to conserve water and achieve desired coverage and flow rate

WEIGHT DISTRIBUTIONS - APPROXIMATE

Front Axle - Empty	46 %
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Front Axle - Loaded	33 %
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Rear Axle - Empty	54 %
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Rear Axle - Loaded	67 %
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TRANSMISSION

Forward - 1	10.7 km/h
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Forward - 2	14.6 km/h
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Forward - 3	19.2 km/h
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Forward - 4	26.7 km/h
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Forward - 5	36.2 km/h
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Forward - 6	48.6 km/h
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Forward - 7	65.9 km/h
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Reverse	12.1 km/h
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Note	Maximum travel speeds with standard 27.00R49 (E4) tires.
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FINAL DRIVES

Differential Ratio	2.736:1
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Planetary Ratio	7.0:1
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Total Reduction Ratio	19.1576:1
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777 (07) WATER TRUCK STANDARD EQUIPMENT

NOTE

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

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
- APECS Software
- 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

Suspension, rear

ELECTRICAL

Alarm, backup

Alternator, 115 ampere

Auxiliary jump start receptacle

Batteries, maintenance-free, 12V (4), 190 amp-hour

Electrical system, 25 AMP, 24V to 12V converter

Lighting system

- Backup light (halogen)
- Directional signals/hazard warning, (front and rear LED)
- Headlights, (halogen) with dimmer
- Payload, indicator lights
- Operator access courtesy lights
- Side profile lights
- Stop/tail lights (LED)
- Service lights

OPERATOR ENVIRONMENT

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

Fluid level monitoring

Hoist lever

Horn, electric

Light - dome

Light - courtesy

Load counter, automatic

Advisor display

VIMS

TPMS

Foot rest

Mirrors - heated

Power port, 24V and 12V (2)

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

CAT TECHNOLOGY PRODUCTS

Adaptive economy mode

Object detection (4 cameras, 4 radars)

Product Link™ Ready (Level 1)

TKPH/TMPH (Tons Kilometer Per Hour/ Tons Mile Per Hour)

Work Area Vision System (WAVS)

Cat MineStar Edge™: Level 1 - Basic (Equipment Tracking)*

*Basic connectivity package comes standard on all Cat Water Solutions trucks with a 6-month complimentary service-based offering

GUARDS

Engine crankcase

Driveline

Fan and A/C

FLUIDS

Extended Life Coolant to -35° C (-30° F)

OTHER STANDARD EQUIPMENT

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
Traction Control System (TCS) (new version)
Attachment Zone

CAT WATER DELIVERY SYSTEM (WDS)

Controls: Factory installed and 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 with auto shut-off and soft startup
Stainless Steel Spray Heads: maintenance free, patented design resists corrosion
Independent Hydraulic Cooling System: minimizes overheating
Water Cannon: hydraulically controlled, integrated joystick with cab controls, optional nozzles
Parts & service available through global Cat dealer network

CAT BRANDED WATER 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)

777 (07) WATER TRUCK OPTIONAL EQUIPMENT

NOTE

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

OPTIONAL EQUIPMENT

Cab precleaner
Cat Engine Brake
Clustered grease fittings
Cold weather packages
Fluid fill service center
HID lights
Mirrors, convex
Mirrors, heated
Spare rim
Visibility package (meets ISO 5006 requirements)
Wheel chocks
Work Area Vision System (WAVS)

CAT TECHNOLOGY PRODUCTS

Cat MineStar Edge™: Level 2 - Premium (Production Recording)**

**Phased introduction 2022