



Cat[®] 777G

OFF-HIGHWAY TRUCK

Specifications

Engine (Tier 4 Final)

Engine Model	Cat [®] C32 ACERT™	
Engine Speed	1,800 rpm	
Gross Power – SAE J1995	765 kW	1,025 hp
Net Power – SAE J1349	683 kW	916 hp
Net Power – ISO 9249	683 kW	916 hp
Net Power – 80/1269/EEC	683 kW	916 hp
Engine Power – ISO 14396	752 kW	1,008 hp
Peak Torque Speed	1,200 rpm	
Net Torque	5286 N-m	3,899 lb-ft
Cylinders	12	
Bore	145 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in ³

Engine (Tier 2 Equivalent)

Engine Model	Cat [®] C32 ACERT™	
Engine Speed	1,800 rpm	
Gross Power – SAE J1995	765 kW	1,025 hp
Net Power – SAE J1349	704 kW	945 hp
Net Power – ISO 9249	704 kW	945 hp
Net Power – 80/1269/EEC	704 kW	945 hp
Engine Power – ISO 14396	755 kW	1,012 hp
Peak Torque Speed	1,200 rpm	
Net Torque	5286 N-m	3,899 lb-ft
Cylinders	12	
Bore	146 mm	5.7 in
Stroke	162 mm	6.4 in
Displacement	32.1 L	1,959 in ³

- 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 Tier 4 Final and 4600 m (15,000 ft) for Tier 2 Equivalent.
- Not regulated under EU Stage IV regulations due to power rating above 560 kW (750 hp).

Transmission (Tier 4 Final)

Forward 1	10.9 km/h	6.8 mph
Forward 2	14.8 km/h	9.2 mph
Forward 3	20.1 km/h	12.5 mph
Forward 4	27.2 km/h	16.9 mph
Forward 5	36.9 km/h	22.9 mph
Forward 6	49.4 km/h	30.7 mph
Forward 7	67.1 km/h	41.7 mph
Reverse	12.4 km/h	7.7 mph

Transmission (Tier 2 Equivalent)

Forward 1	10.9 km/h	6.8 mph
Forward 2	14.8 km/h	9.2 mph
Forward 3	20.1 km/h	12.5 mph
Forward 4	27.2 km/h	16.9 mph
Forward 5	36.9 km/h	22.9 mph
Forward 6	49.4 km/h	30.7 mph
Forward 7	67.1 km/h	41.7 mph
Reverse	12.4 km/h	7.7 mph

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

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Final Drives

Differential Ratio	2.736:1
Planetary Ratio	7.0:1
Total Reduction Ratio	19.1576:1

Brakes

Brake Surface Area – Front	40 846 cm ²	6,331 in ²
Brake Surface Area – Rear	102 116 cm ²	15,828 in ²
Brake Standards	ISO 3450:1996	

Body Hoists (Tier 4 Final)

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 seconds	
Body Lower Time – Float	13 seconds	
Body Lower Time – High Idle	13 seconds	

Body Hoists (Tier 2 Equivalent)

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 seconds	
Body Lower Time – Float	13 seconds	
Body Lower Time – High Idle	13 seconds	

Capacity – Dual Slope – 100% Fill Factor

Struck	41.9 m ³	54.8 yd ³
Heaped 2:1 (SAE)	60.2 m ³	78.8 yd ³

Capacity – X Body – 100% Fill Factor

Struck	43.1 m ³	56.3 yd ³
Heaped 2:1 (SAE)	64.1 m ³	83.8 yd ³

Capacity – Coal Bodies – 100% Fill Factor

SAE 2:1 for use with material densities of 1160 kg/m ³ (1,950 lb/yd ³)	89 m ³	116 yd ³
SAE 2:1 for use with material densities of 1040-1160 kg/m ³ (1,750-1,950 lb/yd ³)	106 m ³	139 yd ³
SAE 2:1 for use with material densities of 950-1040 kg/m ³ (1,600-1,750 lb/yd ³)	110 m ³	144 yd ³
SAE 2:1 for use with material densities less than 950 kg/m ³ (1,600 lb/yd ³)	126 m ³	165 yd ³

Weight Distributions – Approximate

Front Axle – Empty	46%
Front Axle – Loaded	33%
Rear Axle – Empty	54%
Rear Axle – Loaded	67%

Suspension

Empty Loaded Cylinder Stroke Front	74.7 mm	2.9 in
Empty Loaded Cylinder Stroke Rear	66 mm	2.5 in
Rear Axle Oscillation	5.4°	

Sound

Sound Standards

- 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.
- 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) for Tier 4 Final trucks and 84 dB(A) for Tier 2 Equivalent.
- 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.

Service Refill Capacities

Fuel Tank	1136 L	300 gal
Fuel Tank	1325 L	350 gal
Cooling System – Tier 4 Final	240 L	63.4 gal
Cooling System – Tier 2 Equivalent	228 L	60.2 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
Brake Hoist System (includes tank)	444 L	117 gal
Brake Hoist System	322 L	85 gal
Torque Converter/Transmission System	138.5 L	36.5 gal

Steering

Steering Standards	SAE J1511 FEB94 ISO 5010:1992	
Steer Angle	30.5°	
Turning Diameter – Front	25.3 m	83 ft
Turning Circle Clearance Diameter	28.4 m	93 ft

Tires

Standard Tire	27.00R49 (E4)
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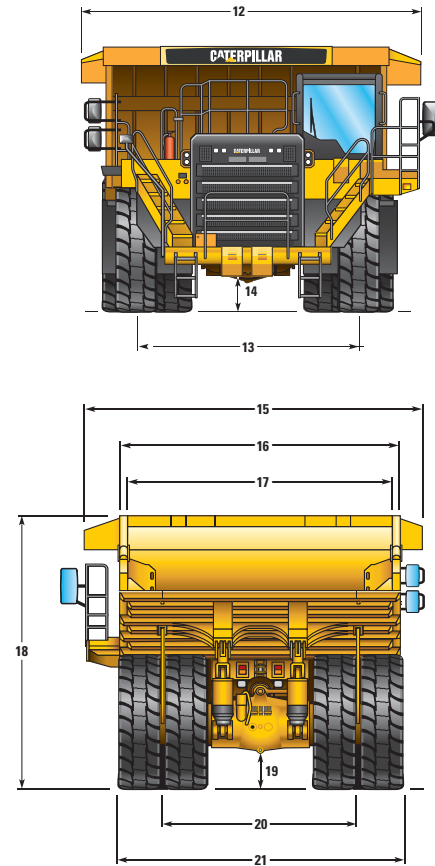
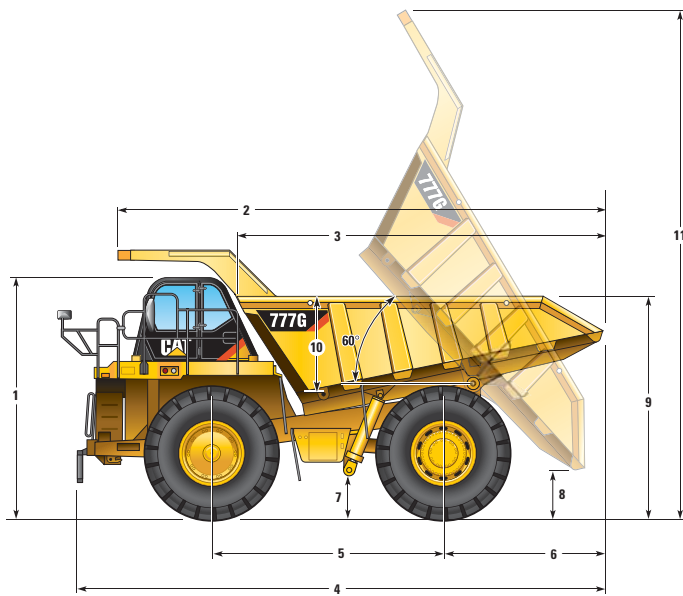
- Productive capabilities of the 777G truck are such that, under certain job conditions, TKPH (TMPH) capabilities of standard or optional tires could be exceeded and, therefore, limit production.
- Caterpillar recommends the customer evaluate all job conditions and consult the tire manufacturer for proper tire selection.

ROPS

ROPS/FOPS Standards

- ROPS (Rollover Protective Structure) for cab offered by Caterpillar meets ISO 3471:2008 ROPS criteria.
- FOPS (Falling Objects Protective Structure) meets ISO 3449:2005 Level II FOPS criteria.

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Dimensions (All dimensions are approximate.)

	Dual Slope		X Body		Coal Body 1		Coal Body 2	
1 Height to Top of ROPS	4730 mm	15.50 ft	4730 mm	15.50 ft	4730 mm	15.50 ft	4730 mm	15.50 ft
2 Overall Body Length	9830 mm	32.20 ft	10 070 mm	33.04 ft	10 274 mm	33.71 ft	10 445 mm	34.27 ft
3 Inside Body Length	6580 mm	21.50 ft	7037 mm	23.09 ft	7562 mm	24.81 ft	7734 mm	25.37 ft
4 Overall Length	10 535 mm	34.50 ft	10 758 mm	35.30 ft	10 968 mm	35.98 ft	11 140 mm	36.55 ft
5 Wheelbase	4560 mm	14.90 ft	4560 mm	14.96 ft	4560 mm	14.96 ft	4560 mm	14.96 ft
6 Rear Axle to Tail	3062 mm	10.00 ft	3263 mm	10.71 ft	3473 mm	11.39 ft	3644 mm	11.96 ft
7 Ground Clearance	896 mm	2.90 ft	896 mm	2.94 ft	896 mm	2.94 ft	896 mm	2.94 ft
8 Dump Clearance	965 mm	3.10 ft	893 mm	2.93 ft	935 mm	3.07 ft	821 mm	2.69 ft
9 Loading Height – Empty	4380 mm	14.30 ft	4429 mm	14.53 ft	4851 mm	15.92 ft	5321 mm	17.46 ft
10 Inside Body Depth – Maximum	1895 mm	6.20 ft	1777 mm	5.83 ft	2223 mm	7.29 ft	2693 mm	8.84 ft
11 Overall Height – Body Raised	9953 mm	32.60 ft	10 071 mm	33.04 ft	10 319 mm	33.85 ft	10 319 mm	33.85 ft
12 Operating Width	6687 mm	21.90 ft	6687 mm	21.94 ft	6706 mm	22.00 ft	6706 mm	22.00 ft
13 Front Tire Width	4170 mm	13.60 ft	4170 mm	13.68 ft	4170 mm	13.68 ft	4170 mm	13.68 ft
14 Engine Guard Clearance	864 mm	2.80 ft	864 mm	2.83 ft	864 mm	2.83 ft	864 mm	2.83 ft
15 Overall Canopy Width	6200 mm	20.30 ft	6200 mm	20.34 ft	6404 mm	21.01 ft	6404 mm	21.01 ft
16 Outside Body Width	5524 mm	18.10 ft	5682 mm	18.64 ft	6365 mm	20.88 ft	6368 mm	20.89 ft
17 Inside Body Width	5200 mm	17.00 ft	5450 mm	17.88 ft	6150 mm	20.18 ft	6150 mm	20.18 ft
18 Front Canopy Height	5200 mm	17.00 ft	5370 mm	17.62 ft	5840 mm	19.16 ft	5840 mm	19.16 ft
19 Rear Axle Clearance	902 mm	2.90 ft	902 mm	2.96 ft	902 mm	2.96 ft	902 mm	2.96 ft
20 Rear Dual Tire Width	3576 mm	11.70 ft	3576 mm	11.73 ft	3576 mm	11.73 ft	3576 mm	11.73 ft
21 Overall Tire Width	5223 mm	17.10 ft	5223 mm	17.14 ft	5223 mm	17.14 ft	5223 mm	17.14 ft

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STANDARD EQUIPMENT

POWER TRAIN

- 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:
 - 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 (EU Compliant)

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

TECHNOLOGY PRODUCTS

- Product Link Ready (Level 1)
- TKPH/TMPH (Tons Kilometer Per Hour/ Tons Mile Per Hour)
- Object Detection (4 cameras, 4 radars)
- Adaptive economy mode

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 (new version)
- Attachment Zone

OPTIONAL EQUIPMENT

- Body heat
- Body liners
- Body side boards
- Cab precleaner
- Cat Engine Brake
- Clustered grease fittings
- Cold weather packages
- Extended Life Brakes
- 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)

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AEHQ6667-01 (07-12)
Replaces AEHQ6667

