

768C, 772B, 776C

Off-Highway
Tractors

CAT[®]



Machine Model	768C		772B		776C	
Cat [®] Engine Model	3408		3412		3508	
Gross Power at 2000 RPM	353 kW	474 HP	509 kW	682 HP	686 kW	920 HP
Net Power at 2000 RPM	353 kW	450 HP	485 kW	650 HP	649 kW	870 HP
Operating Weight, Empty	24 624 kg	54,285 lbs	32 909 kg	72,550 lbs	52 037 kg	114,720 lbs
Maximum Travel Speed	75.2 km/h	46.7 mph	63.9 km/h	39.7 mph	60.4 km/h	37.5 mph

Engine

Four-stroke cycle, eight cylinder 3408 turbocharged and aftercooled diesel engine.

Ratings at 2000 RPM	kW	HP
Gross power	353	474
Net power	336	450

The following ratings apply at 2000 RPM when tested under the specified standard conditions for the specified standard:

NET POWER	KW	HP	PS
Caterpillar	336	450	—
ISO 9249	336	450	—
SAE J1349	332	445	—
EEC 80/1269	336	450	—
DIN 70020	—	—	466
Maximum torque		2014 N•m (1,485 ft-lb)	
Maximum torque rise		25%	

Note: See 769C off-highway truck specifications for power rating conditions

Dimensions

Bore	137 mm	5.4 in.
Stroke	152 mm	6.0 in.
Displacement	18.0 liters	1099 in ³

Features

- direct injection fuel system with adjustment free injection pumps and valves
- direct-electric 24-volt starting system with 50 amp alternator and four 172 amp-hour, low maintenance, high output batteries

Tires

Standard: 18.00-R33 (E4)

Caterpillar recommends the user evaluate all job conditions and consult the tire manufacturer to make proper tire selection

Brakes

Meets the SAE J1473 OCT90, ISO 3450-1985 standards up to 67 586 kg (149,000 lb) gross operating weight.

Additional braking capacity may be required on trailer.

Brake Surface

Front	1394 cm ² (216 in ²)
Rear	54 999 cm ² (8,525 in ²)

Retarding System	kW	HP
Continuous rating	433	581
Intermittent rating	895	1,200

Features

- Caterpillar® oil-cooled multi disc brakes on rear and caliper disc on front. Secondary braking and parking brakes spring applied, hydraulically released.

Transmission

Caterpillar seven-speed, electronically controlled, automatic power shift transmission.

Maximum Speeds (standard 18.00-R33)

		km/h	MPH
Forward	1	10.8	6.7
	2	15.1	9.4
	3	20.4	12.7
	4	27.4	17.0
	5	37.0	23.0
	6	50.1	31.1
	7	75.2	46.7
Reverse		13.5	8.4

Features

- single-lever shift control provides automatic shifting in all gears up to the one selected by the control lever
- each shift individually modulated for maximum smoothness
- electronic control has built in diagnostics and fault code memory, and programmable features

Steering

Meets SAE J1511 OCT90. Separate hydraulic system.

Features

- twin, double acting cylinders
- front suspension cylinders serve as kingpins
- automatic, electric, supplemental steering
- turning diameter: 16.5 m (54'0")
- clearance circle: 18.5m (90'8")
- steering angle: 39°

Final Drives

Planetary design with full-floating axles

Ratios

Differential	2.74:1
Planetary	4.80:1
Total Reduction	13.15:1

Service Refill Capacities

	L	Gallons
Brakes and converter tank	220	58
Brakes and converter system and tank	357	94
Cooling system	113.5	30
Crankcase	45	12
Differential and final drives	83	22
Fuel tank	530	140
Steering tank	55	14.5
Steering system (includes tank)	83	22
Transmission hydraulic tank	81	21.5
Transmission system (includes tank)	100	26.6

Engine

Four-stroke cycle, eight cylinder 3412 turbocharged and aftercooled diesel engine.

Ratings at 2000 RPM	kW	HP
Gross power	509	682
Net power	485	650

The following ratings apply at 2000 RPM when tested under the specified standard conditions for the specified standard:

NET POWER	KW	HP	PS
Caterpillar	485	650	—
ISO 9249	485	650	—
SAE J1349	480	643	—
EEC 80/1269	485	650	—
DIN 70020	—	—	673
Maximum torque		2758 N•m (2,034 ft-lb)	
Maximum torque rise		19%	

Note: See 773B off-highway truck specifications for power rating conditions

Dimensions

Bore	137 mm	5.4 in.
Stroke	152 mm	6.0 in.
Displacement	27.0 liters	1649 in ³

Features

- direct injection fuel system with adjustment free injection pumps and valves
- direct-electric 24-volt starting system with 50 amp alternator and four 172 amp-hour, low maintenance, high output batteries

Tires

Standard: 24.00-R35 (E4)

Caterpillar recommends the user evaluate all job conditions and consult the tire manufacturer to make proper tire selection

Brakes

Meets the SAE J1473 OCT90, ISO 3450-1985 standards up to 67 586 kg (149,000) lb gross operating weight.

Additional braking capacity may be required on trailer.

Brake Surface

Front	1394 cm ² (216 in ²)
Rear	61 265 cm ² (9,496 in ²)

Retarding System	kW	HP
Continuous rating	526	705
Intermittent rating	1119	1,500

Features

- Caterpillar oil-cooled multi disc brakes on rear and caliper disc on front. Secondary braking and parking brakes spring applied, hydraulically released.

Transmission

Caterpillar seven-speed, electronically controlled, automatic power shift transmission.

Maximum Speeds (standard 24.00-R35)

		km/h	MPH
Forward	1	9.2	5.7
	2	12.7	7.9
	3	17.2	10.7
	4	23.2	14.4
	5	31.2	19.4
	6	42.2	26.2
	7	63.9	39.7
Reverse		11.3	7.0

Features

- single-lever shift control provides automatic shifting in all gears up to the one selected by the control lever
- each shift individually modulated for maximum smoothness
- electronic control has built in diagnostics and fault code memory, and programmable features

Steering

Meets SAE J1511 OCT90. Separate hydraulic system.

Features

- twin, double acting cylinders
- front suspension cylinders serve as kingpins
- automatic, electric, supplemental steering
- turning diameter: 21.5 m (70'7")
- clearance circle: 23.5 m (77'0")
- steering angle: 31°

Final Drives

Planetary design with full-floating axles

Ratios

Differential	3.64:1
Planetary	4.80:1
Total Reduction	17.48:1

Service Refill Capacities

	L	Gallons
Brakes and converter tank	220	58
Brakes and converter system and tank	393	104
Cooling system	151	40
Crankcase	68	180
Differential and final drives	155	41
Fuel tank	700	185
Steering tank	55	14.5
Steering system (includes tank)	81	21.5
Transmission hydraulic tank	81	21.5
Transmission system (includes tank)	100	26.6

Engine

Four-stroke cycle, eight cylinder 3508 turbocharged and aftercooled diesel engine.

Ratings at 1750 RPM	kW	HP
Gross power	686	920
Net power	649	870

The following ratings apply at 1750 RPM when tested under the specified standard conditions for the specified standard:

NET POWER	KW	HP	PS
Caterpillar	649	870	—
ISO 9249	649	870	—
SAE J1349	642	861	—
EEC 80/1269	649	870	—
DIN 70020	—	—	861
Maximum torque	4354 N•m (3,211 ft-lb)		
Maximum torque rise			23%

Maximum torque rise 23%

Note: See 777C off-highway truck specifications for power rating conditions.

Dimensions

Bore	170 mm	6.7 in.
Stroke	190 mm	7.5 in.
Displacement	34.5 liters	2105 in ³

Features

- direct injection fuel system with adjustment free injection pumps and valves
- direct-electric 24-volt starting system with 50 amp alternator and four 172 amp-hour, low maintenance, high output batteries

Tires

Standard: 27.00-R49 (E4)

Caterpillar recommends the user evaluate all job conditions and consult the tire manufacturer to make proper tire selection

Brakes

Meets the SAE J1473 OCT90, ISO 3450-1985 standards up to 146 966 kg (324,000) lb gross operating weight.

Additional braking capacity may be required on trailer.

Brake Surface

Front	3871 cm ² (600 in ²)
Rear	80 400 cm ² (12,462 in ²)

Retarding System	kW	HP
Continuous rating	895	1200
Intermittent rating	1864	2,500

Features

- Caterpillar oil-cooled multi disc brakes on rear and caliper disc on front. Secondary braking and parking brakes spring applied, hydraulically released.

Transmission

Caterpillar seven-speed, electronically controlled, automatic power shift transmission.

Maximum Speeds (standard 27.00-R49)

		km/h	MPH
Forward	1	10.5	6.5
	2	14.3	8.9
	3	19.3	12.0
	4	26.0	16.2
	5	34.9	21.9
	6	46.6	28.9
	7	60.4	37.5
Reverse		11.9	7.4

Features

- single-lever shift control provides automatic shifting in all gears up to the one selected by the control lever
- each shift individually modulated for maximum smoothness
- electronic control has built in diagnostics and fault code memory, and programmable features

Steering

Meets SAE J1511 OCT90. Separate hydraulic system.

Features

- twin, double acting cylinders
- front suspension cylinders serve as kingpins
- automatic, electric, supplemental steering
- turning diameter: 24.5 m (80'5")
- clearance circle: 25.8 m (84'6")
- steering angle: 31.8°

Final Drives

Planetary design with full-floating axles

Ratios

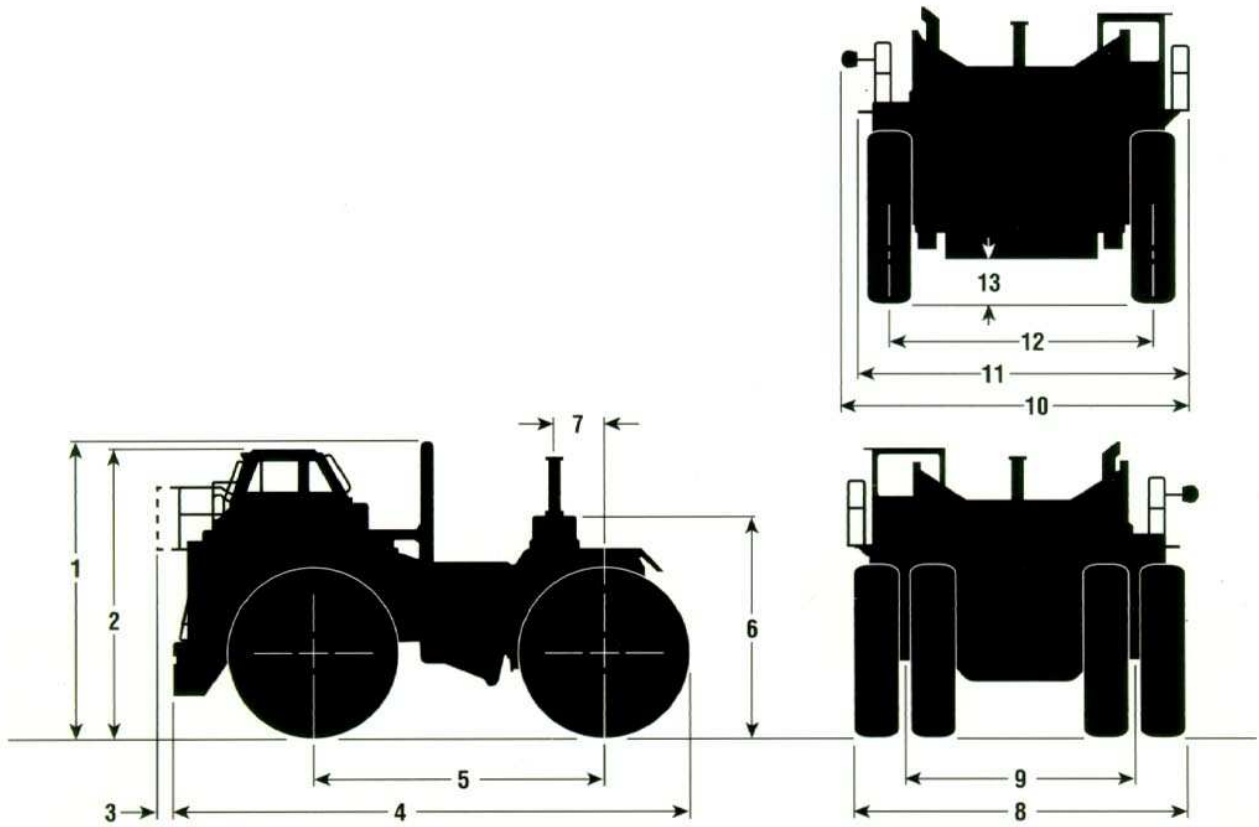
Differential	2.74:1
Planetary	7.00:1
Total Reduction	19.18:1

Service Refill Capacities

	L	Gallons
Brakes and converter tank	220	58
Brakes and converter system and tank	415	110
Cooling system	325	86
Crankcase	91	24
Differential and final drives	329	87
Fuel tank	946	250
Steering tank	83	22
Steering system (includes tank)	110	29
Transmission hydraulic tank	81	21.5
Transmission system (includes tank)	138	36.5

Dimensions

All dimensions are approximate



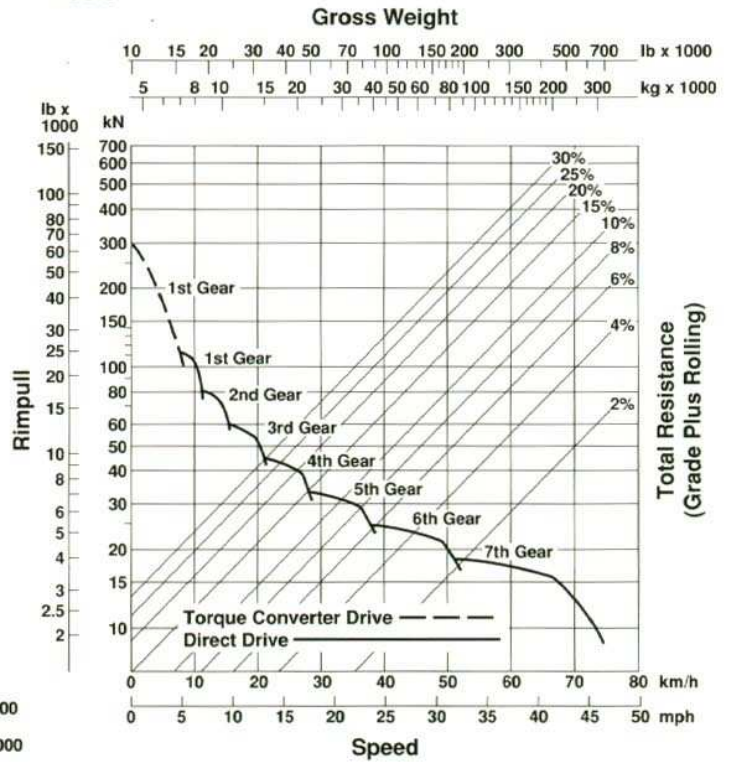
Dimension/Model	768C		772B		776C	
	mm	ft/in	mm	ft/in	mm	ft/in
1 Overall height (loaded)	—	—	4520	14' 10"	4596	15' 7"
2 Overall height (loaded)	3560	11' 8"	—	—	—	—
3 Bumper to rail clearance	170	6.7"	138	5.4"	—	—
4 Overall length (excluding catwalk)	8007	26' 3"	9120	29' 11"	9780	32' 1"
5 Wheelbase	3708	12' 2"	4191	13' 9"	4570	15' 0"
6 Height to yoke seat (loaded)	2123	7' 0"	2799	9' 2"	3400	11' 2"
7 Rear axle to hitch pin	91	3.58"	508	1' 8"	762	2' 6"
8 Width over tires	3615	11' 10"	4457	14' 5"	5252	17' 3"
9 Rear Gauge	2470	8' 1"	2927	9' 7"	3576	11' 9"
10 Operating width with mirror	4054	13' 4"	4206	13' 10"	5283	17' 4"
11 Overall width (excluding mirror)	3345	11' 0"	3498	11' 6"	4574	15' 0"
12 Front Gauge	3102	10' 2"	3181	10' 5"	4173	13' 8"
13 Ground Clearance (loaded)	515	1' 8"	650	2' 2"	700	2' 4"
Weights	kg	lb	kg	lb	kg	lb
Empty (with 10% fuel)	23 705	52,260	32 910	72,550	52 040	114,720
Maximum hitch loads	40 410	89,000	51 762	114,000	83 999	185,000

Gradeability/Speed/Rimpull

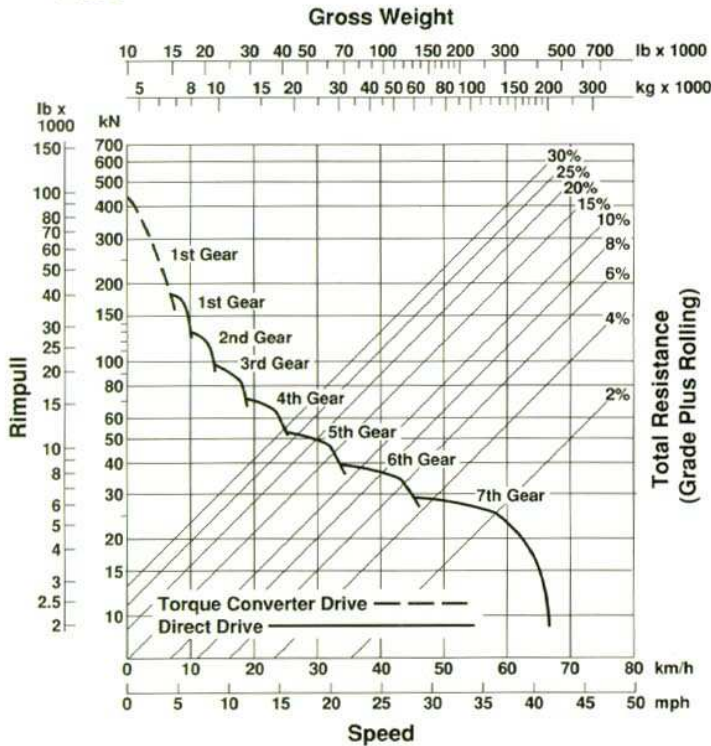
768C, 772C, 776C

To determine gradeability performance: Read from gross weight down to the percent of total resistance. Total resistance equals actual percent grade plus 1% for each 10kg/t or 20lb/ton of rolling resistance. From this weight-resistance point, read horizontally to the curve with the highest obtainable gear, then down to maximum speed. Usable rimpull will depend upon traction available and weight on drive wheels.

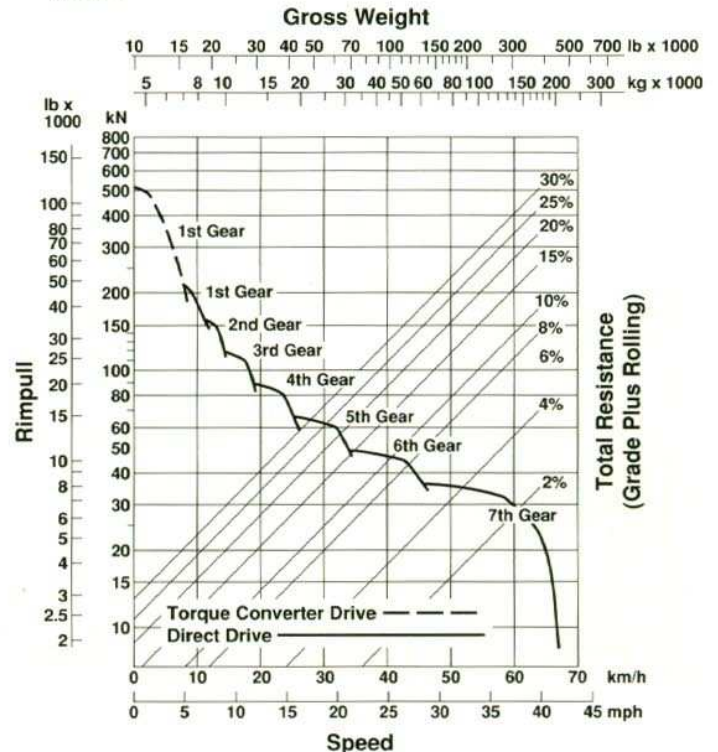
768C



772C



776C



Features Common To All Models

Frame

Full box section with torque tube crossmember.

- front box beams for suspension cylinders and ROPS support.
- castings are used to provide additional strength in critical stress areas.
- mild steel plates provide flexibility, durability, and good resistance to impact loads.

Hitch

Yoke-type hitch design provides unmatched joint integrity.

Yoke-type hitch design provides unmatched joint integrity. The kingpin base limits oscillation to either side and the yoke allows fore-aft movement. Two-axis oscillation reduces stress to hitch area to provide increased durability, especially on uneven ground. The yoke is tied directly to the tractor frame by durable straddle mountings on the 772B and 776C (photo 1), and by trunnion mountings on the 768C (not shown). Turnstops help prevent the wagon from rotating in excess of 90° (768C) or 105° (772B, 776C - photo 2) in either direction. The 768C kingpin is attached at both ends and uses integral turnstops.

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ROPS Cab

Integral ROPS cab is standard

- ROPS (Rollover Protection Structure) meets criteria SAE J1040 APR88, ISO 3471. FOPS (Fall Off Protection Structure) meets criteria ISO 3449.
- When properly installed and maintained, the cab offered by Caterpillar when tested with doors and windows closed as per work cycle procedures specified in ANSI/SAE J1166 MAY90 results in an operator sound exposure Leq of 80 dB(A). This operator A-weighted sound exposure level can be used in conjunction with OSHA, MSHA and EEC Occupational Noise Exposure Criteria.

Platforms

Platforms are standard and provide a work area that is protected from the power train. Fenders and mud flaps are attached to protect against material thrown by the rear tires.

Running Gear

Trailer axles, brakes, wheels and rims are available through the Caterpillar Hauling Units/Motor Graders Custom Products group.

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768C, 772B, 776C Off-Highway Tractors

AEHQ5004 (9-94)
(Replaces AEHQ5867)

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Materials and specifications are subject to change without notice.

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