

775G

Off-Highway Truck

Caterpillar is pleased to introduce to you the 775G off-highway truck. You may be asking how, after 40 years of building trucks, Caterpillar has improved this product's ability to support your business.

G Series has been designed and manufactured using the latest quality control technologies; both virtual and hands on. This product has over 30,000 hours of proven performance in the hands of customers prior to production, all of which ensures the truck delivered to your yard is ready to work, reliably and dependably.

In addition to quality, Cat G Series trucks will lower your costs with seven different ways to help you conserve fuel. We offer you two customizable fuel economy modes that will let you choose the level of savings. With Cat G Series trucks in your haul fleets, you can be more productive, spend less time on maintenance, and support the environment with new levels of eco performance. Your crew will appreciate all the new comfort and conveniences in our updated cab. Simply put, Cat G Series trucks can and will make a positive difference to both your business and people.

G Series Customer Requirements

- meet safety and regulatory requirements
- machine available when scheduled to work
- performance that promotes low owning and operating costs
- provide an operating environment that enhances productivity

G Series Quality

G Series is backed by comprehensive virtual validation, prototype testing and 33,000 hours of work in the hands of customers prior to production.

G Series Performance

The 775G has 5% more power and new transmission controls that convert power to work with automotive-quality shifting and comfort.



G Series Economics

G Series introduces new fuel saving strategies that meet customers' job site conditions and needs, and allows simple and easy servicing.

G Series Safety

With improved designs that impact braking, traction control, visibility and egress, G Series is setting new standards of safety in this size class of truck.

Sustainable Designs

The 775G reaches new levels of sustainability using less fuel, producing few emissions and reducing sound levels by 50% for the operator.



775G Off-Highway Truck Specifications

Engine (Tier 4 Final)

Engine Model	Cat® C27 ACERT™	
Rated Engine Speed	1,800 rpm	
Gross Power – SAE J1995	615 kW	825 hp
Net Power – SAE J1349	572 kW	768 hp
Net Power – ISO 9249	578 kW	775 hp
Net Power – 80/1269/EEC	578 kW	775 hp
Engine Power – ISO 14396	605.2 kW	812 hp
Peak Torque Speed	1,200 rpm	
Net Torque	4269 N·m	3,148 lb-ft
Bore	137 mm	5.4 in
Stroke	152 mm	6 in
Displacement	27 L	1,648 in ³

Engine (Tier 2 Equivalent)

Engine Model	Cat® C27 ACERT™	
Rated Engine Speed	2,000 rpm	
Gross Power – SAE J1995	615 kW	825 hp
Net Power – SAE J1349	584 kW	783 hp
Net Power – ISO 9249	590 kW	791 hp
Net Power – 80/1269/EEC	590 kW	791 hp
Engine Power – ISO 14396	607 kW	813 hp
Peak Torque Speed	1,300 rpm	
Net Torque	3896 N·m	2,874 lb-ft
Bore	137 mm	5.4 in
Stroke	152 mm	6 in
Displacement	27 L	1,648 in ³

- Power rating applies at 2,000 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 3048 m (10,000 ft) for Tier 4 Final and 3810 m (12,500 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	10.6 km/h	6.6 mph
Forward 2	15.0 km/h	9.3 mph
Forward 3	20.3 km/h	12.6 mph
Forward 4	27.0 km/h	16.8 mph
Forward 5	36.7 km/h	22.8 mph
Forward 6	49.4 km/h	30.7 mph
Forward 7	66.9 km/h	41.6 mph
Reverse	14.0 km/h	8.7 mph

Transmission (Tier 2 Equivalent)

Forward 1	10.8 km/h	6.7 mph
Forward 2	15.1 km/h	9.4 mph
Forward 3	20.4 km/h	12.7 mph
Forward 4	27.4 km/h	17.0 mph
Forward 5	37.0 km/h	23.0 mph
Forward 6	50.1 km/h	31.1 mph
Forward 7	67.6 km/h	42.0 mph
Reverse	14.1 km/h	8.8 mph

- Maximum travel speeds with standard 24.00R35 (E4) tires.

Final Drives

Differential Ratio	3.64:1
Planetary Ratio	4.80:1
Total Reduction Ratio	17.49:1

Brakes

Brake Surface – Front	655 cm ²	257 in ²
Brake Surface – Rear	61 269 cm ²	9,497 in ²
Brake Standards	ISO 3450:1996	

Body Hoists (Tier 4 Final)

Pump Flow – High Idle	448 L/min	118 gal/min
Relief Valve Setting – Raise	17 250 kPa	2,502 psi
Relief Valve Setting – Lower	3450 kPa	500 psi
Body Raise Time – High Idle	10.0 seconds	
Body Lower Time – Float	14.0 seconds	
Body Power Down – High Idle	14.0 seconds	

775G Off-Highway Truck Specifications

Body Hoists (Tier 2 Equivalent)

Pump Flow – High Idle	448 L/min	118 gal/min
Relief Valve Setting – Raise	17 250 kPa	2,502 psi
Relief Valve Setting – Lower	3450 kPa	500 psi
Body Raise Time – High Idle	9.5 seconds	
Body Lower Time – Float	13.0 seconds	
Body Power Down – High Idle	13.0 seconds	

Capacity – Dual Slope – 100% Fill Factor

Struck	32.6 m ³	42.7 yd ³
Heaped 2:1 (SAE)	42.2 m ³	55.5 yd ³

Capacity – Flat Floor – 100% Fill Factor

Struck	32.3 m ³	42.2 yd ³
Heaped 2:1 (SAE)	42.2 m ³	55.2 yd ³

Weight Distributions – Approximate

Front Axle – Empty	50%	
Front Axle – Loaded	34%	
Rear Axle – Empty	50%	
Rear Axle – Loaded	66%	

Suspension

Empty Loaded Cylinder Stroke Front	234 mm	9.2 in
Empty Loaded Cylinder Stroke Rear	149 mm	5.8 in
Rear Axle Oscillation	8.1°	

Sound

Sound Standards

- The operator Equivalent Sound Pressure Level (Leq) is 76 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 86 dB(A).
- 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	795 L	210 gal
Cooling System	171 L	45 gal
Crankcase	90 L	24 gal
Differentials and Final Drives	145 L	38 gal
Steering Tank	36 L	9.5 gal
Steering System (includes tank)	54 L	14 gal
Brake/Hoist Hydraulic Tank	176 L	46.5 gal
Brake Hoist System	322 L	85 gal
Torque Converter/Transmission System HRC	70 L	18 gal
Torque Converter/Transmission System LRC	61 L	16 gal

Steering

Steering Standards	SAE J1511 FEB94 ISO 5010:1992	
Steer Angle	31°	
Turning Diameter – Front	23.5 m	77 ft 1 in
Turning Circle Clearance Diameter	26.1 m	85 ft 8 in

Tires

Standard Tire	24.00R35 (E4)
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- Productive capabilities of the 775G 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.

775G Off-Highway Truck Specifications

Weight/Payload Calculation (Tier 4 Final Example)

775G – Flat Floor		354-7900 Base Body	377-6400 Base Body/Liner	354-7950 Quarry Body	377-6402 Rubber Liner
Floor/Sidewall/Frontwall	mm (in)	20/10/12 (0.79/0.39/0.47)	36/18/22 (1.42/0.71/0.87)	25/14/16 (0.98/0.55/0.63)	102/8/8 + 20/10/12 (4.0/0.31/0.31) + (0.79/0.39/0.47)
Payload Capacity	m ³ (yd ³)	42.2 (55.2)	41.6 (54.4)	41.9 (54.9)	39.8 (52.0)
	mm (in)	20 (0.787)	20 (0.787)	25 (1.0)	102 (4.0)
Target Gross Machine Weight	kg (lb)	111 811 (246,500)	111 811 (246,500)	111 811 (246,500)	111 811 (246,500)
Empty Chassis Weight	kg (lb)	35 708 (78,723)	35 708 (78,723)	35 708 (78,723)	35 708 (78,723)
Body System Weight	kg (lb)	11 760 (25,926)	15 885 (35,020)	13 827 (30,483)	16 732 (36,887)
Empty Machine Weight	kg (lb)	47 468 (104,649)	51 593 (113,743)	49 535 (109,206)	52 440 (115,610)
Attachments					
Fuel Tank Size	L (gal)	795 (210)	795 (210)	795 (210)	795 (210)
Fuel Tank – 100% Fill	kg (lb)	669 (1,474)	669 (1,474)	669 (1,474)	669 (1,474)
Empty Operating Weight**	kg (lb)	48 137 (106,123)	52 262 (115,217)	50 204 (110,680)	53 108 (117,084)
Target Payload*	kg (lb)	63 674 (140,377)	59 549 (131,283)	61 607 (135,820)	58 702 (129,416)
Target Payload*	tonnes (tons)	63.7 (70.2)	59.5 (65.6)	61.6 (67.9)	58.7 (64.7)
10/10/20 Policy*					
Nominal Payload – 100%	kg (lb)	63 674 (140,377)	59 549 (131,283)	61 607 (135,820)	58 702 (129,416)
Maximum Working Payload – 110%	kg (lb)	70 041 (154,414)	65 504 (144,411)	67 768 (149,401)	64 572 (142,357)
Not to Exceed Payload – 120%	kg (lb)	76 409 (168,452)	71 459 (157,539)	73 928 (162,983)	70 443 (155,299)
Maximum Gross Machine Weight*	kg (lb)	124 545 (274,575)	123 720 (272,757)	124 132 (273,664)	123 551 (272,383)

775G – Dual Slope		354-7910 Base Body	377-6410 Base Body/Liner	No Quarry Body Offered	No Rubber Liner Offered
Floor/Sidewall/Frontwall	mm (in)	20/10/12 (0.79/0.39/0.47)	36/18/22 (1.42/0.71/0.87)		
Payload Capacity	m ³ (yd ³)	42.2 (55.2)	41.7 (54.5)		
	mm (in)	20 (0.787)	25 (1.0)		
Target Gross Machine Weight	kg (lb)	111 811 (246,500)	111 811 (246,500)		
Empty Chassis Weight	kg (lb)	35 708 (78,723)	35 708 (78,723)		
Body System Weight	kg (lb)	11 466 (25,278)	15 482 (34,132)		
Empty Machine Weight	kg (lb)	47 174 (104,001)	51 190 (112,855)		
Attachments					
Fuel Tank Size	L (gal)	795 (210)	795 (210)		
Fuel Tank – 100% Fill	kg (lb)	669 (1,474)	669 (1,474)		
Empty Operating Weight**	kg (lb)	47 843 (105,475)	51 859 (114,329)		
Target Payload*	kg (lb)	63 968 (141,025)	59 952 (132,171)		
Target Payload*	tonnes (tons)	64.0 (70.5)	60.0 (66.1)		
10/10/20 Policy*					
Nominal Payload – 100%	kg (lb)	63 968 (141,025)	59 952 (132,171)		
Maximum Working Payload – 110%	kg (lb)	70 365 (155,127)	65 947 (145,388)		
Not to Exceed Payload – 120%	kg (lb)	76 761 (169,229)	71 942 (158,605)		
Maximum Gross Machine Weight*	kg (lb)	124 604 (274,705)	123 801 (272,934)		

*Refer to Caterpillar 10/10/20 overload policy.

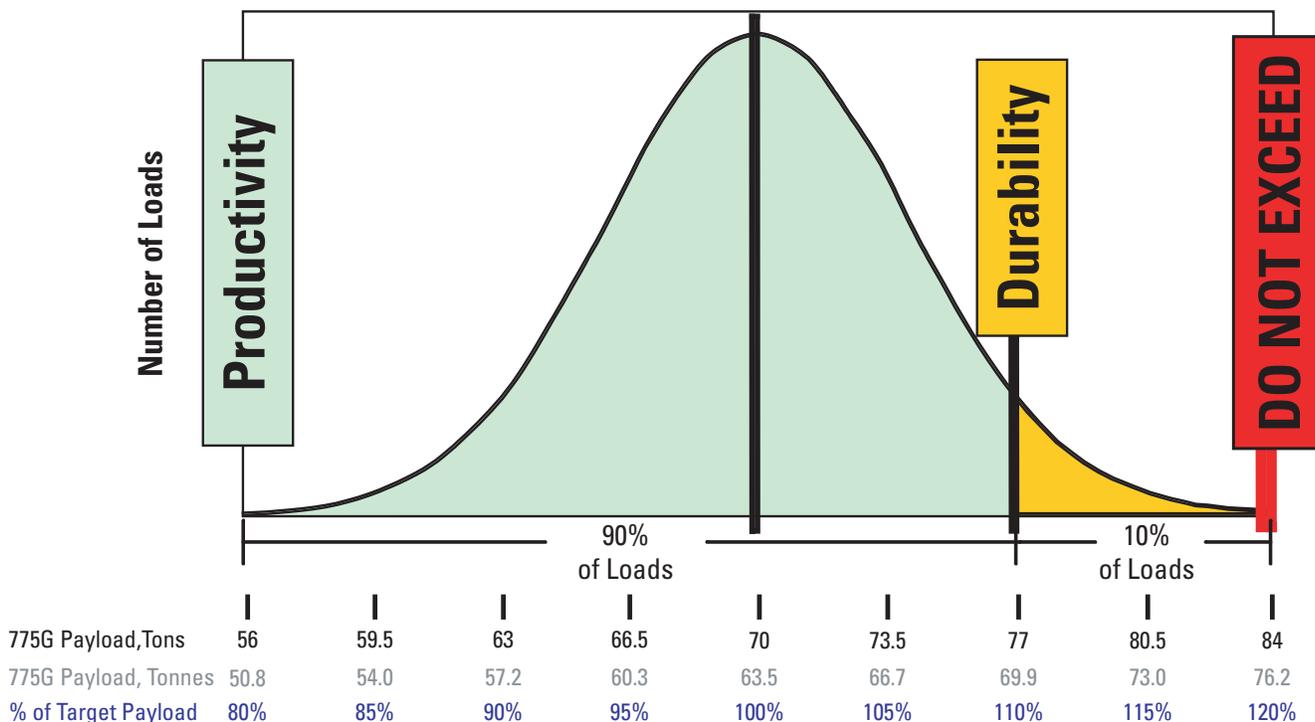
**Includes weight of all attachments.

775G Off-Highway Truck Specifications

10/10/20 Payload Management Policy for Optimal Machine Life

The ideal hauling strategy that maximizes machine and machine component life is to *keep the mean of all payloads at or below the machine's rated target payload.*

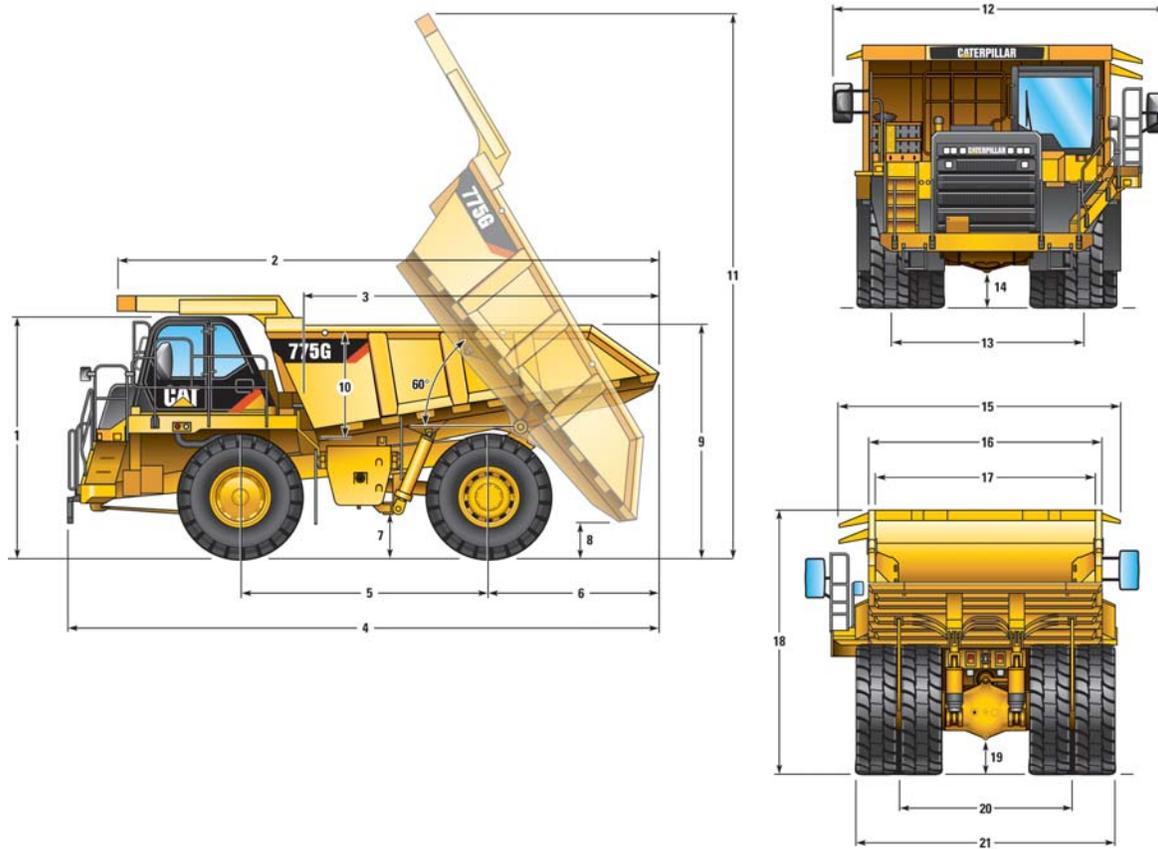
- 90% of loads should fall into this range
- No more than 10% of loads should exceed 10% of the target payload
- No loads should be above 20% of the target payload



775G Off-Highway Truck Specifications

Dimensions

All dimensions are approximate.



	Dual Slope		Flat Floor		Quarry	
1 Height to Top of ROPS	4108 mm	13.48 ft	4108 mm	13.48 ft	4108 mm	13.48 ft
2 Overall Body Length	9215 mm	30.23 ft	9293 mm	30.49 ft	9295 mm	30.50 ft
3 Inside Body Length	6100 mm	20.01 ft	6100 mm	20.01 ft	6100 mm	20.01 ft
4 Overall Length	10 073 mm	33.05 ft	10 151 mm	33.30 ft	10 151 mm	33.30 ft
5 Wheelbase	4215 mm	13.83 ft	4215 mm	13.83 ft	4215 mm	13.83 ft
6 Rear Axle to Tail	2925 mm	9.60 ft	3005 mm	9.86 ft	3005 mm	9.86 ft
7 Ground Clearance	759 mm	2.49 ft	759 mm	2.49 ft	759 mm	2.49 ft
8 Dump Clearance	650 mm	2.13 ft	639 mm	2.10 ft	639 mm	2.10 ft
9 Loading Height – Empty	3963 mm	13.00 ft	3964 mm	13.01 ft	3968 mm	13.02 ft
10 Inside Body Depth – Maximum	1945 mm	6.38 ft	1892 mm	6.21 ft	1892 mm	6.21 ft
11 Overall Height – Body Raised	9279 mm	30.44 ft	9279 mm	30.44 ft	9283 mm	30.46 ft
12 Operating Width	5673 mm	18.61 ft	5673 mm	18.61 ft	5673 mm	18.61 ft
13 Centerline Front Tire Width	3205 mm	10.52 ft	3205 mm	10.52 ft	3205 mm	10.52 ft
14 Engine Guard Clearance	703 mm	2.31 ft	703 mm	2.31 ft	703 mm	2.31 ft
15 Overall Canopy Width	5012 mm	16.44 ft	5012 mm	16.44 ft	5012 mm	16.44 ft
16 Outside Body Width	4254 mm	13.96 ft	4254 mm	13.96 ft	4254 mm	13.96 ft
17 Inside Body Width	3986 mm	13.08 ft	3986 mm	13.08 ft	3986 mm	13.08 ft
18 Front Canopy Height	4459 mm	14.63 ft	4457 mm	14.62 ft	4463 mm	14.64 ft
19 Rear Axle Clearance	560 mm	1.84 ft	560 mm	1.84 ft	560 mm	1.84 ft
20 Centerline Rear Dual Tire Width	2929 mm	9.61 ft	2929 mm	9.61 ft	2929 mm	9.61 ft
21 Overall Tire Width	4411 mm	14.47 ft	4411 mm	14.47 ft	4411 mm	14.47 ft

Standard Equipment

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

POWER TRAIN

Cat C27 ACERT Tier 4 Final compliant diesel engine:

- Air cleaner with precleaner (2)
- Air-To-Air Aftercooler (ATAAC)
- Electric start
- Engine idle shutdown
- Ether starting aid
- Exhaust muffler
- NGMR radiator

For Tier 4 regions only (U.S./Canada):

- Aftertreatment system
 - NO_x Reduction System (NRS)
 - Diesel Oxidation Catalyst (DOC)
- Demand fan
- MEUI-C fuel system

For non-regulated regions only:

- Direct drive fan
- MEUI-A fuel system

Braking system:

- Automatic Retarder Control (ARC)
- Manual retarder (utilizes rear oil cooled, multiple disc brakes)
- Brake release motor (towing)
- Dry disc brakes (front)
- Front brake disconnect switch (front)
- Oil-cooled multiple disc brakes (rear)
- Brake wear indicator (rear)
- Parking brake
- Secondary brake
- Service brake

Transmission:

- 7 speed automatic powershift with Electronic Clutch Pressure Control (ECPC)
- Advanced Productivity Electronic Control Strategy (APECS)
- Automatic neutral idle
- Autostall
- Second gear start

SUSPENSION SYSTEMS

Suspension, front and rear (EU compliant)

ELECTRICAL

Alarm backup
Alternator, 120 Amp
Autolube power supply ready
Batteries, maintenance-free, 12V (2), 1,400 CCA combined
Electrical system, 25 Amp, 24V to 12V converter

Lighting system:

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

Service center containing:

- Battery jump start
- Breakers with spare fuses
- Lock out switch
- Ports, ET and VIMS
- Service lockout switch (power without engine start)

TECHNOLOGY PRODUCTS

Economy Modes, standard and adaptive
Product Link, cellular or satellite
Traction Control System (TCS)
Truck Production Management System (TPMS)
Vital Information Management System (VIMS)

OPERATOR ENVIRONMENT

Advisor display:

- Air cleaner service indicator
- Fluid level monitoring
- Fuel level monitoring
- Display languages (market based)

Air conditioning/heat

Automatic temperature control

Ashtray and cigarette lighter

Coat hook

Cup holders (4)

Diagnostic connection port, 24V

Entertainment radio ready:

- 5 amp converter
- Speakers
- Antenna
- Wiring harness

Foot rest

Gauges/indicators:

- Brake oil temperature gauge
- Coolant temperature gauge
- Engine overspeed indicator
- Fuel level
- Hour meter
- Speedometer with odometer
- Tachometer
- Transmission gear indicator

Hoist lever

Horn

Light – courtesy

Light – dome

Mirrors, non-heated

Power port, 24V and 12V (2)

Rollover Protection (ROPS)/
Falling Object Protection (FOPS)

Seat, Cat Comfort Series III:

- Full air suspension
- Retractable 3-point seat belt with shoulder harness

Seat, training with lap belt

Steering wheel, padded, tilt and telescopic

Storage compartment

Sun visor

Throttle lock

Window, hinged, right side (emergency exit)

Window, powered, left side

Windshield wiper intermittent and washer

GUARDS

Driveline

Engine crankcase

Fan

FLUIDS

Antifreeze

Extended life coolant to –34° C (–30° F)

Grouped ground-level filters

OTHER STANDARD EQUIPMENT

Body down indicator

Body safety pin (secures body in up position)

Center mounted rims

Fuel tank, 795 L (210 gal)

Ground level battery disconnect

Ground level engine shutdown

Ground level grease fittings

Operator Maintenance Manual (OMM)

Rims 17 × 35

Rock ejectors

Secondary steering (electric)

Tie down eyes

Tow hooks (front)/tow pin (rear)

Vandalism protection locks

775G Off-Highway Truck

Optional Equipment

Optional equipment may vary. Consult your Cat dealer for details.

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

Materials and specifications are subject to change without notice.

Featured machines in photos may include additional equipment.

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

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