

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 | |

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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) |
|---------------|---------------|

- 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.

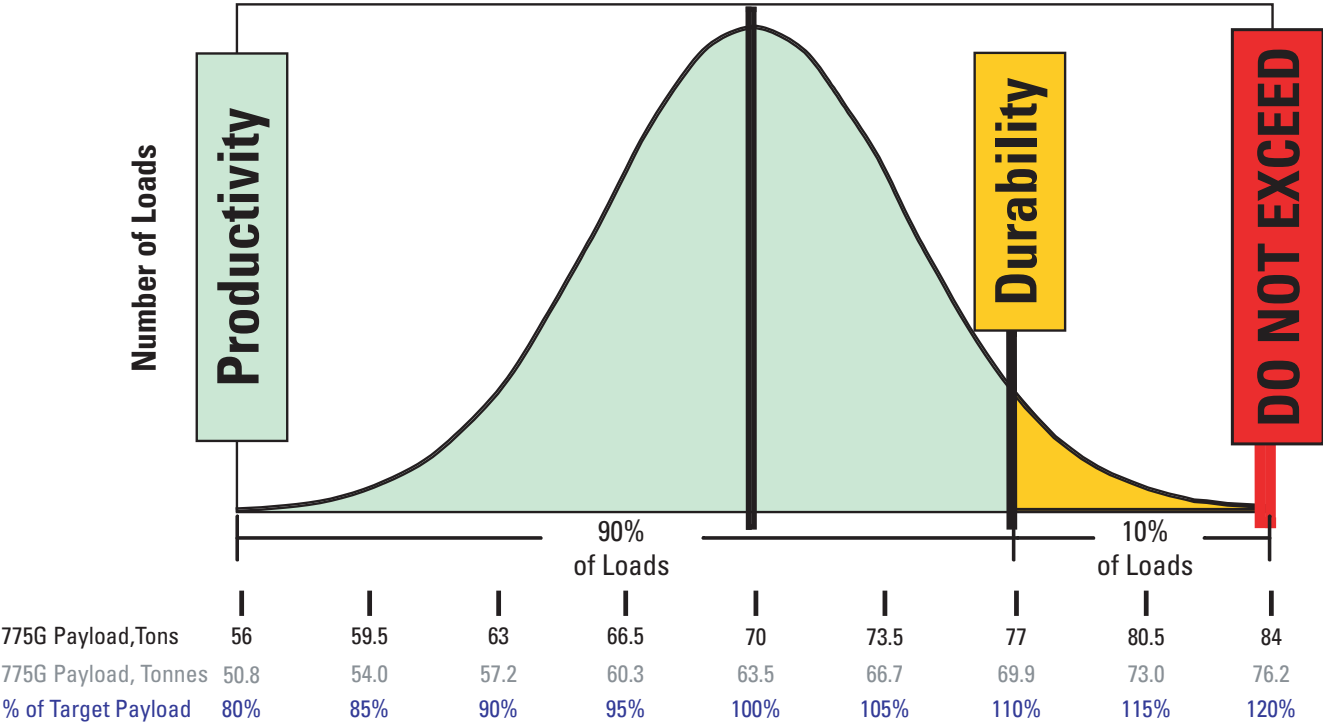
**Includes weight of all attachments.

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.*

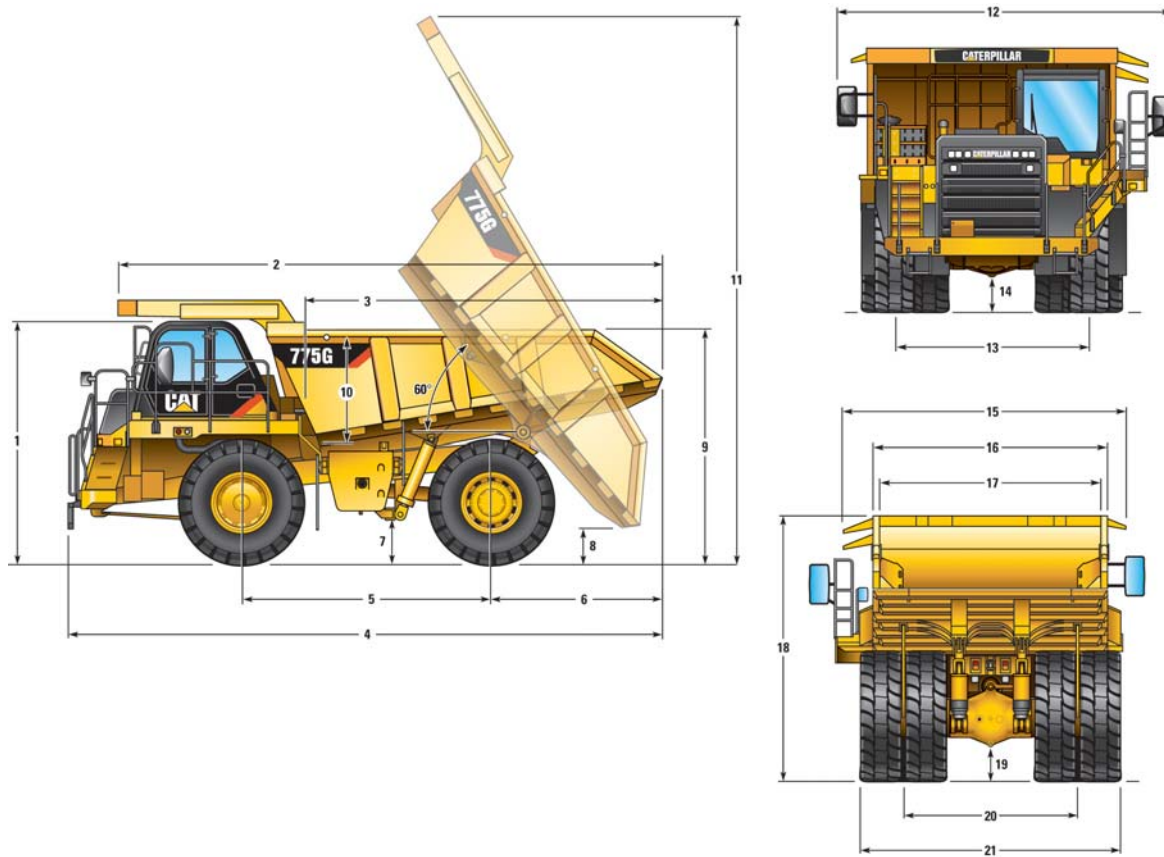
- 90% of loads should fall into this range
- No more than 10% of loads should exceed 10% of the target payload
- No loads should be above 20% of the target payload



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 |
| Body side boards | Fluid fill service center | (meets ISO 5006 requirements) |
| Cab precleaner | HID lights | Wheel chocks |
| Cat Engine Brake | Mirrors, convex | Work Area Vision System (WAVS) |
| Clustered grease fittings | Mirrors, heated | |

Materials and specifications are subject to change without notice.

Featured machines in photos may include additional equipment.

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