

777G

Off-Highway Truck



Engine (U.S. EPA Tier 4 and EU Stage V)

| | | |
|-------------------------|-----------------|----------|
| Engine Model | Cat® C32 ACERT™ | |
| Gross Power – SAE J1995 | 765 kW | 1,025 hp |
| Net Power – SAE J1349 | 683 kW | 916 hp |

Engine (U.S. EPA Tier 2 Equivalent)

| | | |
|-------------------------|---------------|----------|
| Engine Model | Cat C32 ACERT | |
| Gross Power – SAE J1995 | 765 kW | 1,025 hp |
| Net Power – SAE J1349 | 704 kW | 945 hp |

Weights – Approximate

| | | |
|-----------------------------|------------|------------|
| Target Gross Machine Weight | 164 654 kg | 363,000 lb |
|-----------------------------|------------|------------|

Operating Specifications*

| | | |
|-----------------------------------|---------------------|----------------------|
| Target Payload (100%) | 96.6 tonnes | 106.4 tons |
| Maximum Working Payload (110%) | 106.2 tonnes | 117.1 tons |
| Maximum Allowable Payload (120%)* | 115.9 tonnes | 127.7 tons |
| Body Capacity – SAE 2:1 | 64.1 m ³ | 83.8 yd ³ |

• Capacity with flat floor X Body without body liners.

* Refer to the Caterpillar 10/10/20 Payload Policy for maximum gross vehicle weight limitations. See Weight Tables within to confirm target payloads based on final machine configuration. Adding body liners will reduce target payload.

G Series – a commitment to your safety, people, and business

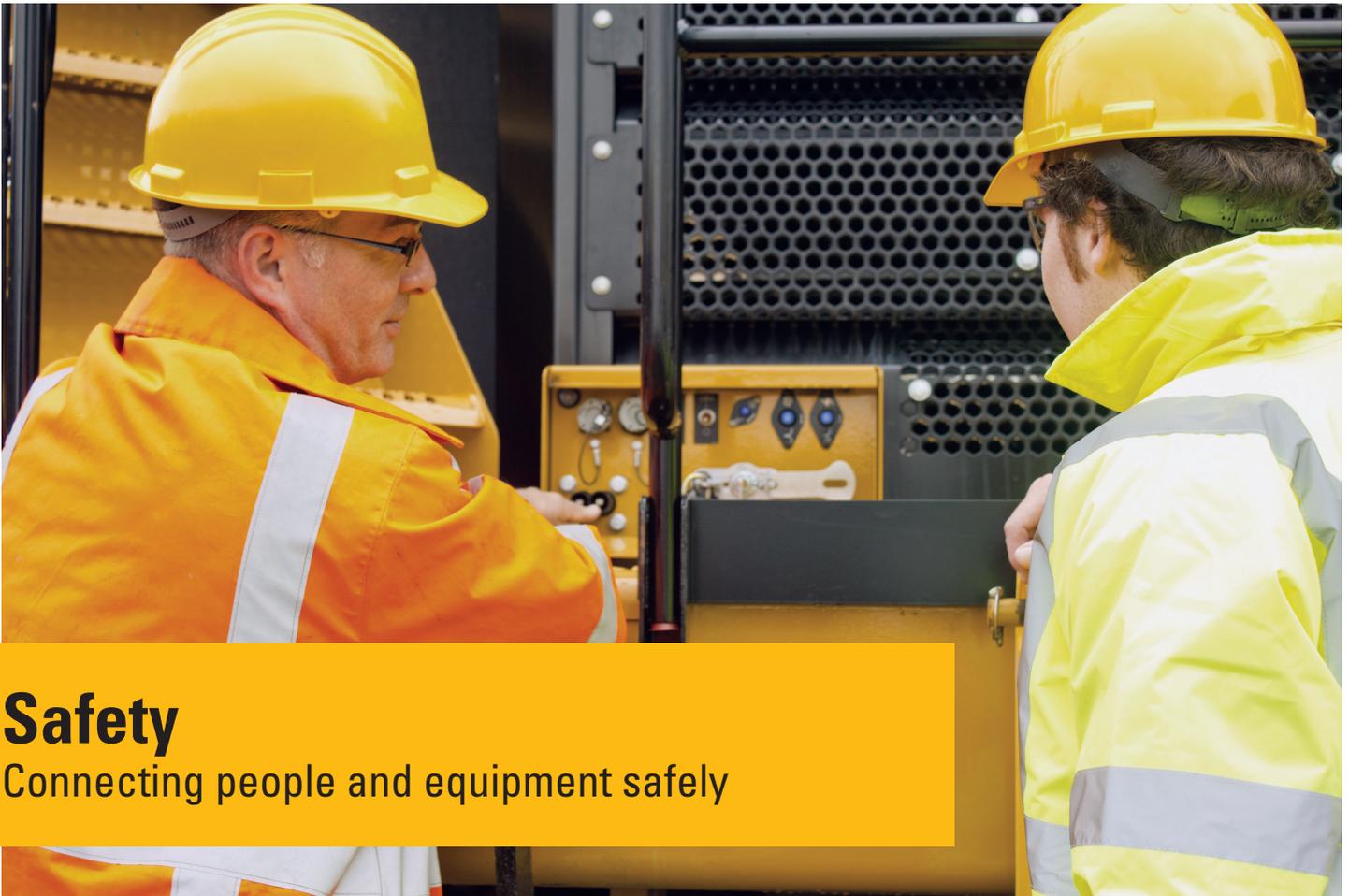


Contents

| | |
|--------------------------------------|----|
| Safety | 4 |
| Operator Work Environment | 6 |
| Environmental Responsibility..... | 8 |
| Cutting Your Fuel Costs | 10 |
| Performance | 11 |
| Long-Term Value and Durability | 12 |
| Body Options..... | 14 |
| XQ Package..... | 16 |
| Mud Protection Package..... | 16 |
| Service Convenience | 17 |
| Specifications..... | 18 |
| Standard Equipment..... | 32 |
| Optional Equipment..... | 33 |
| Notes..... | 34 |



G Series represents a new era for this size class from Caterpillar. With your input, we have designed and manufactured a truck that is reliable, economical and offers comfort, confidence, and control for your operators. Your long-term success is our goal and with G Series trucks, we're on the right road.



Safety

Connecting people and equipment safely

A Focus on Personnel

The 777G is designed to minimize slips and falls, providing firm footing and stability.

- Ground level daily check points
- Low-effort, integrated access system with hand rails for three-points of contact
- Aggressive tread plate on all step areas with lighted access for after dark
- Integrated windshield washing platform

Confidence and Control

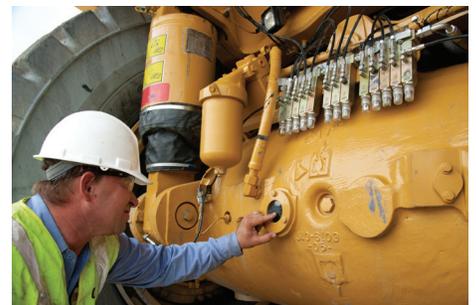
Confident operators will move material quickly, efficiently, and profitably.

- Wet Disc Braking is standard on all four corners of the truck
- Four corner park brake for slope holding capability and brake wear indicator
- Automatic Retarding Control (ARC) for downhill grades
- New Traction Control System (TCS)

Visibility

The 777G supports your site safety plan with object detection.

- Visual or audible warning of people or objects close to the machine
- A combination of cameras and radar to identify potential hazards





Key Features

The 777G is solidly constructed for safety.

- Rollover and Falling Object Protection is part of the cab structure
- Emergency egress available through the right side hinged window
- Laminated glass is used in the front and left side windows
- Ground level engine shutdown
- Back-up alarm



Operator Safety

Providing features that fit your operator's needs.

- Fully adjustable and suspended seat
- Integrated three-point safety belt
- Trainer seat with lap belt facilitates on-the-job task training
- Audible warnings for Events and fluid level monitoring
- Automatic derate of the engine possible on some events



Job Site Safety

Safety is a key to hauling productively.

- Speed limiting on the haul is new and more efficient than gear limiting
- Excellent visibility with mirror and lighting options
- Secondary steering in the event of a shutdown
- Speed limiting during body up operations



Operator Work Environment

Productivity from comfort, confidence, control



Information

The Advisor display and VIMS software are important reporting tools that help you analyze:

- Productivity, haul road efficiency, operator skill
- Fuel use, cycle times, idle time
- Machine health and Events



Comfort

The comfort of your crew will dictate their productivity and awareness on the job.

- Easy, low-effort access to the cab
- Ergonomic, intuitive controls
- Left side power window
- Automatic temperature control inside the cab
- Throttle lock convenience for long, uphill climbs
- The cab is spacious with window area that supports visibility
- An integrated footrest provides comfort and support
- Sound suppression has decreased noise by 50%
- The cab is isolation mounted reducing noise and vibration
- Lighting packages illuminate both to the side and front of the vehicle
- Automotive quality shifting from new transmission controls

Confidence and Control

Strong, predictable performance will help your operators achieve the lowest cost per ton.

- ARC reduces operator effort and controls braking on downhill grades
- Performance and health information at a glance using well-lit gauges and the Advisor Message Display
- Solid steering performance from a design that maintains its integrity
- Stopping power from fade-resistant brakes – purpose-built for off-road applications and the loads carried by the 777G
- TCS is now steering sensitive and uses the service brakes to control wheel slip. The result: faster activation and improved response to wheel slip
- Visibility is excellent with extensive mirror options, large window areas and object detection



Cab layout subject to change with optional equipment.

Environmental Responsibility

The benefits are far reaching and economical



As you progress towards a more sustainable business model, the Cat 777G can help.

Fuel and Emissions

- There are substantial fuel saving strategies on the 777G
- Two fuel economy modes can be adjusted to meet your daily production needs
- For the U.S. and Canada, Tier 4 emission controls are available
- For the EU, Stage V emission controls are available

Sound

- Operator noise is reduced by 50%
- Spectator noise levels can be lowered up to 50% with the optional "XQ" package

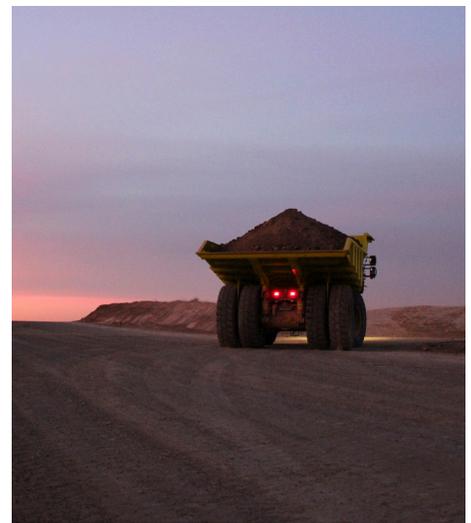
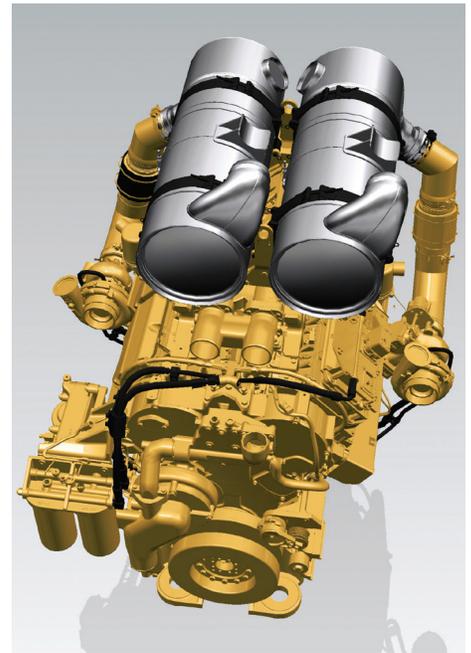
Component Life

- Remanufactured parts are an economical and eco-friendly alternative to new
- Extend tire life by using the TKPH/TMPH feature that calculates tire loading
- A mud protection package is available to help keep power train components clean
- Castings and box section frame construction ensure long-life
- A new rear axle housing adds strength and enables axle filtration and lubrication
- Hydraulic oil filter life is extended to 1,000 hours under normal conditions
- Autostall enables quick operating temperatures for best performance and life
- Delayed Engine Shutdown prevents hot shut downs that can reduce component life

Tier 4/Stage V

Caterpillar's simple solution is transparent to your operators, controls emissions, and increases fuel efficiency.

- Two engine-mounted diesel oxidation catalyst canisters control particulate matter
- Our NRS Technology replaces a portion of intake air with exhaust gas to control combustion temperatures and NO_x production
- Precise, extremely fine atomization of fuel under all load conditions



Cutting Your Fuel Costs

A strategy for lowering your cost per ton



The 777G introduces several key fuel conservation features:

- **Auto Neutral Idle** – as the 777G idles in a forward gear, the transmission will automatically slip in and out of a neutral state to avoid stalling the torque converter and raising engine rpm.
- **Engine Idle Shutdown** – when your G Series truck is in park and idles for more than a preset time, the truck will initiate engine shutdown to conserve fuel. This feature can be time adjusted or turned on or off according to your specific needs.
- **Speed Limiting** – while you can continue to gear limit your G Series trucks, Caterpillar offers speed limiting that allows the truck to travel at a more fuel efficient engine speed and gear selection.
- **Transmission Controls** – New APECS transmission controls increase fuel efficiency by maintaining momentum and speed on grade.

Economy Modes

- **Standard Economy Mode** – G Series can save fuel by adjusting engine power through this newly adjustable economy mode. Adjust the power based on your site, fleet, and economic conditions. The power can be reduced from 0.5 to 15 percent.
- **Adaptive Economy Mode** – New for G Series – this economy mode requires a baseline for production from you using the Advisor display. As the truck transits the haul cycle, it is constantly evaluating its ability to meet your baseline in a reduced power rating. Where full power is needed, full power is applied. Where reduced power works, reduced power is applied. It's fully automatic with no special operation required.



Performance

Efficient application of power and technology

The 777G will haul your material faster and more efficiently with increases in torque, new transmission controls, and higher travel speeds.

- A 7% increase in torque puts more power to the ground
- New transmission controls carry more torque through the shifts, producing faster cycle times – most noticeably on grades
- An increase in travel speed in 7th gear also helps generate faster cycle times



Traction Control

G Series introduces benefits to your fleet when running in wet conditions by introducing a more responsive Traction Control System.

- The system is steering sensitive to determine slip vs. high speed turns
- The system engages at slower speeds returning traction sooner
- The system engages sooner in the slip, potentially reducing tire wear
- The system modulates instantly between the two wheel groups for control
- Using the hydraulic service brakes facilitates the instant modulation and responsiveness

Long-Term Value and Durability

Proven components for reliable performance



At Caterpillar, we know keeping your trucks running is critical to your business, so that's why we use industry leading technology to ensure maximum machine availability and reliability.

Structural Strength

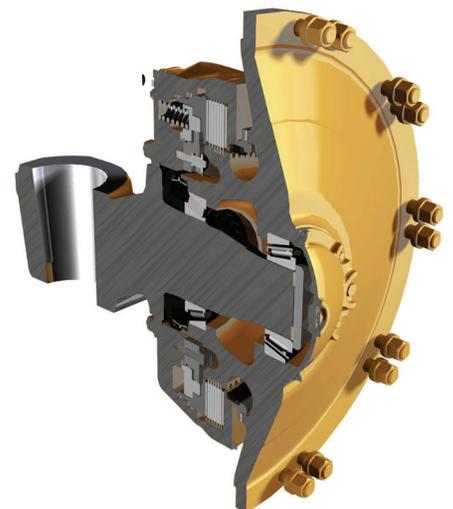
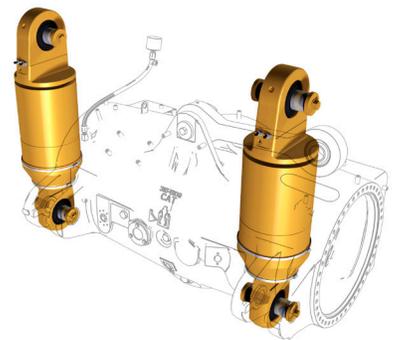
The backbone of the 777G is its frame. Our frames are designed for off-road integrity and are built for more than one life cycle.

- We strategically apply castings with box section construction to manage off-road stresses
- A new front frame design increases the approach angle on ramps and grades
- A new robust rear axle housing supports the truck's performance increases

Brake Performance

Cat trucks provide powerful, fade-resistant braking for your off-road applications. G Series introduces new ways to extend brake life.

- Additional springs in the design reduce wear and increase service life
- All four corners have wet disc braking standard (front brake lockout no longer an option)
- Slope holding capability benefits from all-wheel parking brake actuation
- Brake life can be extended by choosing the optional Cat Engine Brake
- A brake wear indicator keeps you informed of maintenance timing
- Extended life brake material is available for extreme applications





Not only proven, but continuously improving with the latest technical advantages and efficiencies.

Suspension

- Front struts use our proven king pin design for effective absorption of haul road shocks
- Rear suspension cylinders have been inverted to minimize contamination

Planetary Powershift Transmission with APECS Controls

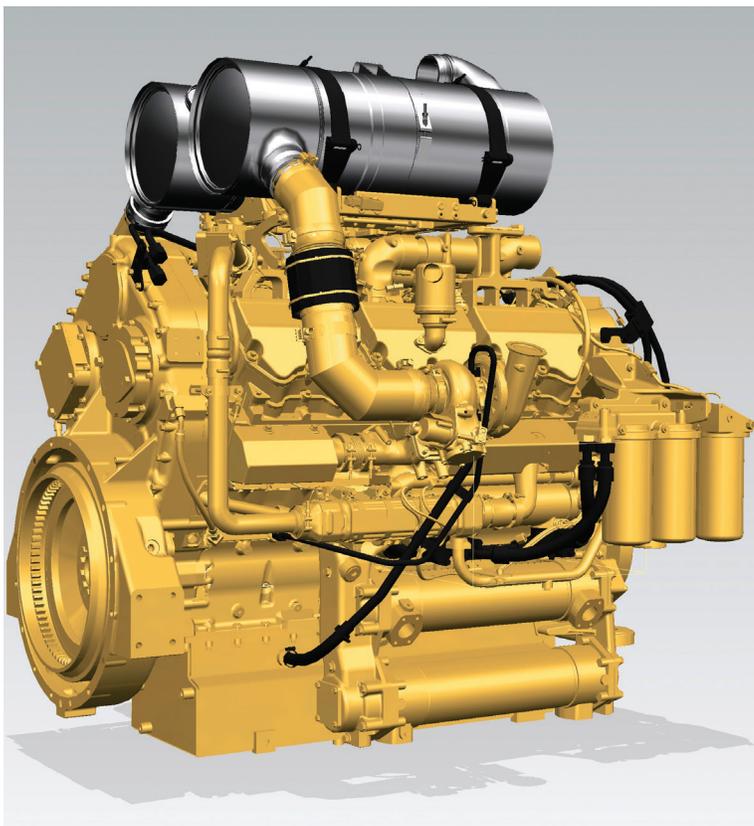
- New APECS controls are delivering performance improvements
- Torque shift management allows the truck to power through shift points
- Part throttle shifting provides an exceptionally smooth ride
- Electronic Clutch Pressure Control (ECPC) electronically controls clutch pressures for long-life

Updated Cat C32 ACERT

- For the 777G, the engine and torque converter are producing 7% more usable torque giving the truck new performance levels and quick haul cycles
- Cat MEUI™ injectors provide high pressure, fine atomization for fuel efficiency and load response
- Low pressure fuel lines from the tank to the engine simplify service
- The C32 is carefully balanced with vibration controls that reduce noise and protect against unnecessary harmonics
- Cooling is provided by either a demand fan (standard for Tier 4/Stage V machines) or a conventional cooling fan
- Ground level engine shutdown switch for safety
- Excellent high-altitude capability

Steering

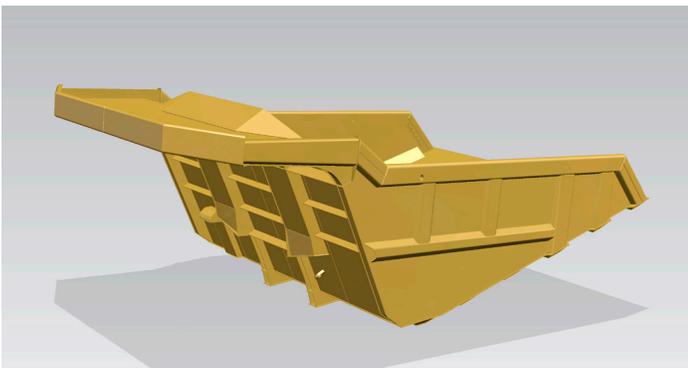
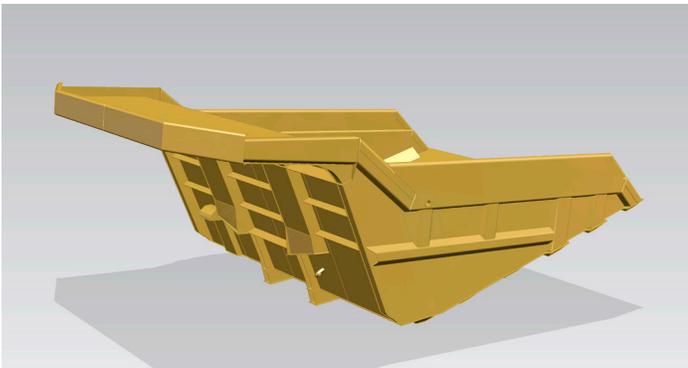
- The steering linkage is designed to provide good feedback to the operator
- The Cat king pin front suspension system maintains steering tolerances and also tire alignment





Body Options

No matter your material type



Coal Bodies

For lightweight materials, Caterpillar offers coal bodies of varying capacities.

- Material density will dictate the recommended body size
- 400 BNH steel is used for long wear life
- Capacities include:
 - 89 m³ (116 yd³)
 - 106 m³ (139 yd³)
 - 110 m³ (144 yd³)
 - 126 m³ (165 yd³)

Our bodies are designed to offer you the best possible performance, longevity, and value by taking into consideration tire life, the truck's center of gravity, load distribution targets, and power train design.

Dual Slope Body

If your haul profile includes steep slopes, the Dual Slope body offers excellent material retention.

- The Dual Slope has a heaped capacity of 60.2 m³ (78.8 yd³) in its standard configuration
- Two sizes of sideboards are available to increase capacity for lighter weight materials
- 400 BNH steel on interior surfaces offers excellent wear characteristics
- Material is carried low and centered for stability
- A single 16 mm (0.62 in) steel liner option is available for this body
- A single rubber liner is available for this body

X Body

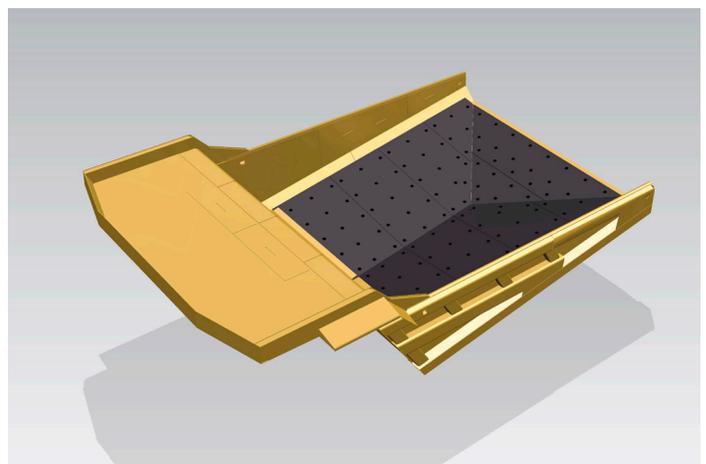
If you're feeding a crusher, the flat floor of the X Body is an excellent choice for metering material.

- The X Body also offers excellent material retention and stability
- 400 BNH and 450 BNH steel are used on internal surfaces for wear protection
- Two steel liner options are available for the X Body
- A rubber liner option is also available

The Rubber Liner

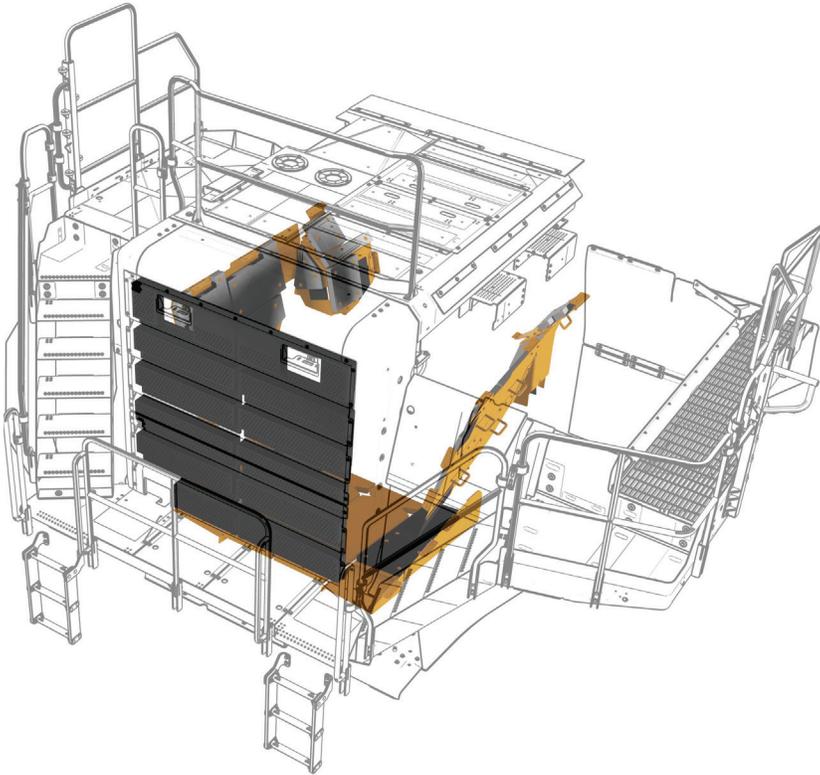
This important option will protect your truck's body in hard rock applications.

- Available for the Dual Slope and X Bodies
- Suppresses noise and vibration to the operator
- Suppresses spectator noise
- Prolongs body life in high impact, hard rock applications



XQ Package

For your sound sensitive environments

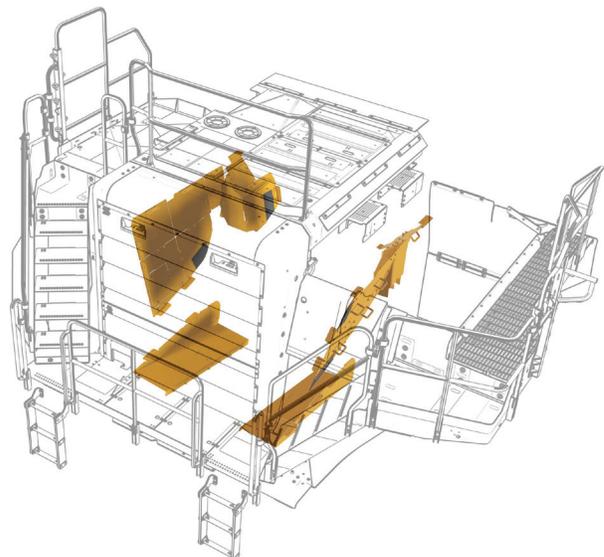


- The XQ package reduces the 777G's spectator noise level to 112 dB(A) using both the ISO 6393:2008 and ISO 6395:2008 test procedures. This test result has an accuracy of plus or minus 1 dB(A).
- This package includes a noise reduced Cat C32 engine, panels that enclose the engine compartment, and sound reduction material within the radiator cowl.
- Sound reduction material in the cab is standard on the truck.
- Tier 2 trucks shipping outside of the U.S. and Canada will come equipped with a demand fan for the XQ package.

Mud Protection Package

For sticky, muddy environments

A mud package that encloses the engine compartment will help protect against sticky, difficult material.



Service Convenience

Simple, more cost-effective solutions



Service Centers – Fluid Fill

You will save both time and money using the optional fluid fill service center.

- Fill and extraction for all fluids in one location
- Keypad tells employees current fluid levels
- Includes all oils, coolant, and fuel
- Conveniently located at ground level
- Lighted for night-time use

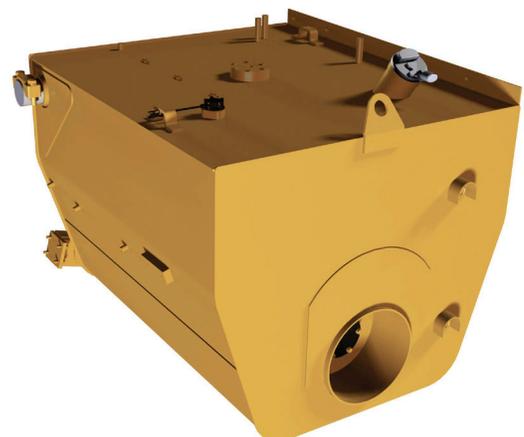
Service Centers – Electrical Connections

- The convenience of ground level access to VIMS data
- Ground level access to ET port
- Master disconnect switch
- Engine lockout switch
- Hydraulics lockout switch
- Breaker access

Brake Monitoring

G Series introduces several brake system updates:

- A brake wear indicator is standard
- Additional internal springs increase separation forces to increase life



777G Off-Highway Truck Specifications

Engine (Tier 4/Stage V)

| | | |
|--------------------------|---------------|-----------------------|
| 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/ Stage V and 4600 m (15,000 ft) for Tier 2 Equivalent.
- Meets EU Stage V emission standards.

Transmission (Tier 4/Stage V)

| | | |
|-----------|-----------|----------|
| 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.

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 3450-2011 | |

Body Hoists (Tier 4/Stage V)

| | | |
|------------------------------|------------|---------------|
| 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 (SAE 2:1)* | 60.2 m ³ | 78.8 yd ³ |

- Contact your local Cat dealer for body recommendation.
- *ISO 6483:1980

Capacity – X Body – 100% Fill Factor

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

- Contact your local Cat dealer for body recommendation.
- *ISO 6483:1980

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 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/Stage V | 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 | ISO 5010:2007 | |
| 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) |
|---------------|---------------|

- 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

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

777G Off-Highway Truck Specifications

Weight/Payload Calculation – Tier 4/Stage V Examples

| Machine Weights Based on Configuration | | X Body (flat floor) | | | | | | | |
|--|---|------------------------------|-----------|------------------------------|-----------|------------------------------|-----------|-------------------------------|-----------|
| | | 489-6400 Without Liner | | 363-5111 With Liner | | 363-5112 With HD Liner | | 363-5113 With Rubber Liner | |
| Base: Floor/Sidewall/Frontwall | mm (in) | 20/10/12 (0.79/0.39/0.47) | | 20/10/12 (0.79/0.39/0.47) | | 20/10/12 (0.79/0.39/0.47) | | 20/10/12 (0.79/0.39/0.47) | |
| Liner: Floor/Sidewall/Frontwall | mm (in) | | | 12/10/16 (0.47/0.39/0.24) | | 16/10/10 (0.63/0.39/0.39) | | 102/10/10 (4.02/0.39/0.39) | |
| Body Volume | m ³ (yd ³) | 64.1 | (83.8) | 63.5 | (83.1) | 63.6 | (82.8) | 60.9 | (79.7) |
| Target Gross Machine Weight | kg (lb) | 164 654 | (363,000) | 164 654 | (363,000) | 164 654 | (363,000) | 164 654 | (363,000) |
| Empty Chassis Weight | kg (lb) | 51 286 | (113,085) | 51 286 | (113,085) | 51 286 | (113,085) | 51 286 | (113,085) |
| Body System Weight | kg (lb) | 15 851 | (34,945) | 20 676 | (45,583) | 22 249 | (49,501) | 23 042 | (50,800) |
| Empty Machine Weight | kg (lb) | 67 137 | (148,030) | 71 962 | (158,668) | 73 535 | (162,586) | 74 328 | (163,885) |
| Fuel Tank Size | L (gal) | 1136 | (300) | 1136 | (300) | 1136 | (300) | 1136 | (300) |
| Fuel Tank – 100% Fill | kg (lb) | 955 | (2,106) | 955 | (2,106) | 955 | (2,106) | 955 | (2,106) |
| Empty Operating Weight | kg (lb) | 68 092 | (150,136) | 72 917 | (160,774) | 74 490 | (164,692) | 75 283 | (165,991) |
| Payload | | | | | | | | | |
| Target Payload (100%)* | kg (lb) | 96 562 | (212,864) | 91 737 | (202,226) | 90 164 | (198,308) | 89 371 | (197,009) |
| | tonnes (tons) | 96.6 | (106.4) | 91.7 | (101.1) | 90.2 | (99.2) | 89.4 | (98.5) |
| Target Payload Material Density | kg/m ³ (lb/yd ³) | 1674 | (2,822) | 1605 | (2,704) | 1575 | (2,661) | 1631 | (2,747) |
| Maximum Working Payload (110%)* | kg (lb) | 106 218 | (234,150) | 100 911 | (222,449) | 99 180 | (218,139) | 98 308 | (216,710) |
| | tonnes (tons) | 106.2 | (117.1) | 100.9 | (111.2) | 99.2 | (109.1) | 98.3 | (108.4) |
| Maximum Payload Material Density | kg/m ³ (lb/yd ³) | 1841 | (3,105) | 1766 | (2,974) | 1733 | (2,927) | 1794 | (3,021) |
| Maximum Allowable Payload (120%)* | kg (lb) | 115 874 | (255,437) | 110 084 | (242,671) | 108 197 | (237,970) | 107 245 | (236,411) |
| | tonnes (tons) | 115.9 | (127.7) | 110.1 | (121.3) | 108.2 | (119.0) | 107.2 | (118.2) |
| Maximum Payload Material Density | kg/m ³ (lb/yd ³) | 2009 | (3,387) | 1926 | (3,245) | 1890 | (3,193) | 1957 | (3,296) |

*Refer to Caterpillar 10/10/20 Payload Policy.

777G Off-Highway Truck Specifications

Weight/Payload Calculation – Tier 4/Stage V Examples

| Machine Weights Based on Configuration | | Dual Slope | | | | | |
|--|---|------------------------------|-----------|------------------------------|-----------|-------------------------------|-----------|
| | | 242-3170 Without Liner | | 277-3212 With Liner | | 277-3213 With Rubber Liner | |
| Base: Floor/Sidewall/Frontwall | mm (in) | 20/10/12 (0.79/0.39/0.47) | | 20/10/12 (0.79/0.39/0.47) | | 20/10/12 (0.79/0.39/0.47) | |
| Liner: Floor/Sidewall/Frontwall | mm (in) | | | 12/10/12 (0.63/0.31/0.31) | | 102/10/10 (4.02/0.39/0.39) | |
| Body Volume | m ³ (yd ³) | 60.1 | (78.6) | 59.5 | (77.8) | 57 | (74.6) |
| Target Gross Machine Weight | kg (lb) | 164 654 | (363,000) | 164 654 | (363,000) | 164 654 | (363,000) |
| Empty Chassis Weight | kg (lb) | 51 286 | (113,085) | 51 286 | (113,085) | 51 286 | (113,085) |
| Body System Weight | kg (lb) | 16 075 | (32,954) | 21 770 | (48,003) | 23 017 | (50,752) |
| Empty Machine Weight | kg (lb) | 67 361 | (146,039) | 73 056 | (161,088) | 74 303 | (163,837) |
| Fuel Tank Size | L (gal) | 1136 | (300) | 1136 | (300) | 1136 | (300) |
| Fuel Tank – 100% Fill | kg (lb) | 955 | (2,106) | 955 | (2,106) | 955 | (2,106) |
| Empty Operating Weight | kg (lb) | 68 316 | (148,145) | 74 011 | (163,194) | 75 258 | (165,943) |
| Payload | | | | | | | |
| Target Payload (100%)* | kg (lb) | 96 338 | (214,855) | 90 643 | (199,806) | 89 396 | (197,057) |
| | tonnes (tons) | 96.3 | (107.4) | 90.6 | (99.9) | 89.4 | (98.5) |
| Target Payload Material Density | kg/m ³ (lb/yd ³) | 1781 | (3,037) | 1693 | (2,854) | 1743 | (2,935) |
| Maximum Working Payload (110%)* | kg (lb) | 105 972 | (236,341) | 99 707 | (219,787) | 98 336 | (216,763) |
| | tonnes (tons) | 106.0 | (118.2) | 99.7 | (109.9) | 98.3 | (108.4) |
| Maximum Payload Material Density | kg/m ³ (lb/yd ³) | 1959 | (3,341) | 1862 | (3,139) | 1917 | (3,229) |
| Maximum Allowable Payload (120%)* | kg (lb) | 115 606 | (257,826) | 108 772 | (239,767) | 107 275 | (236,468) |
| | tonnes (tons) | 115.6 | (128.9) | 108.8 | (119.9) | 107.3 | (118.2) |
| Maximum Payload Material Density | kg/m ³ (lb/yd ³) | 2137 | (3,645) | 2031 | (3,424) | 2091 | (3,522) |

*Refer to Caterpillar 10/10/20 Payload Policy.

Sideboards (optional)

| Height | | Volume Add | | Weight | | Maximum (110%) Material Density** | |
|--------|---------------------|----------------|--------------------|--------|---------|--------------------------------------|---------|
| mm | (in) | m ³ | (yd ³) | kg | (lb) | kg | (lb) |
| 152 | (6) | 4 | (5.3) | 976 | (1,174) | 1569 | (2,656) |
| 305 | (12) | 7.9 | (10.3) | 1513 | (1,819) | 1469 | (2,497) |
| 457 | (18) | 11.5 | (15.1) | 2003 | (2,408) | 1387 | (2,361) |
| 610 | (24) | 14.8 | (19.3) | 2568 | (3,088) | 1317 | (2,251) |
| 175 | (6.9) (X Body only) | 5.1 | (6.7) | 852 | (1,024) | 1472 | (2,490) |

**All sideboards based on DS lined body. X Body sideboard based on X Body lined.

Empty Chassis Weight is figured without fuel.

Payload Calculation: Definitions

Empty Machine Weight = Empty Chassis Weight + Body System Weight

Target Payload = Target Gross Machine Weight less Empty Machine Weight

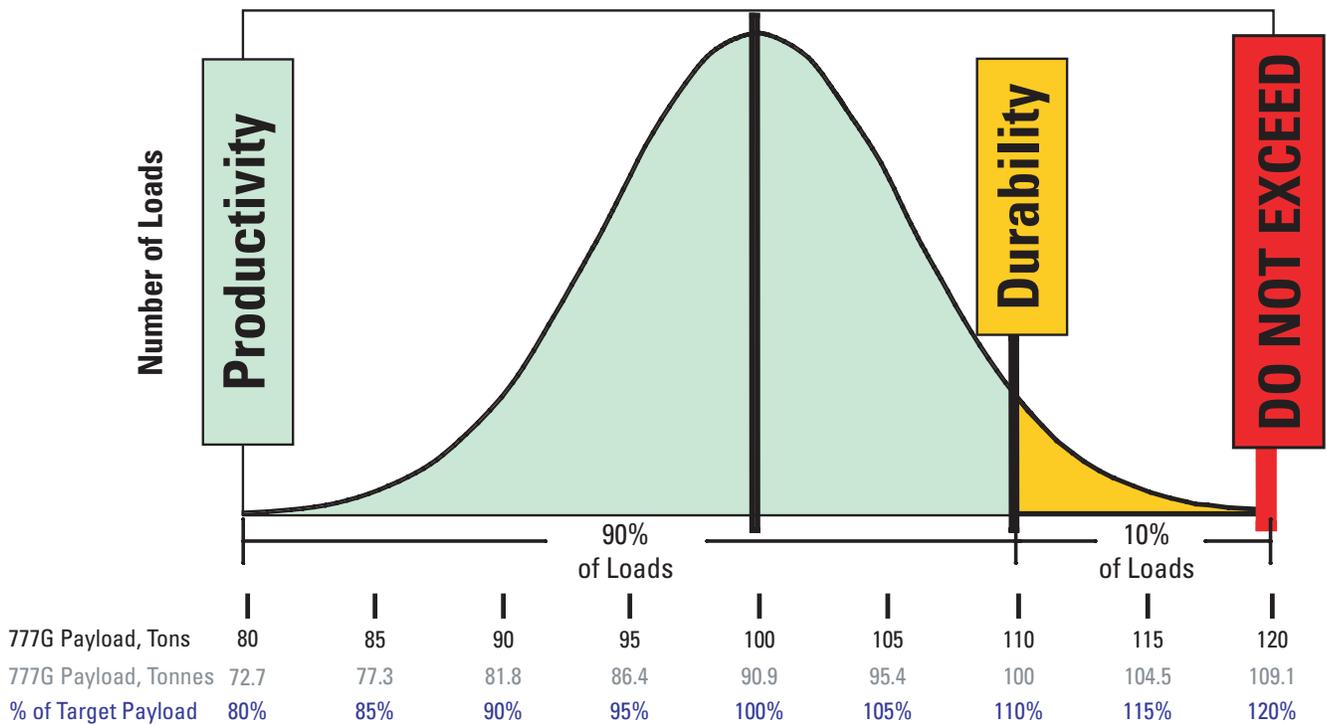
Maximum Payload = Target Payload × 1.10 (110%)

777G 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.*

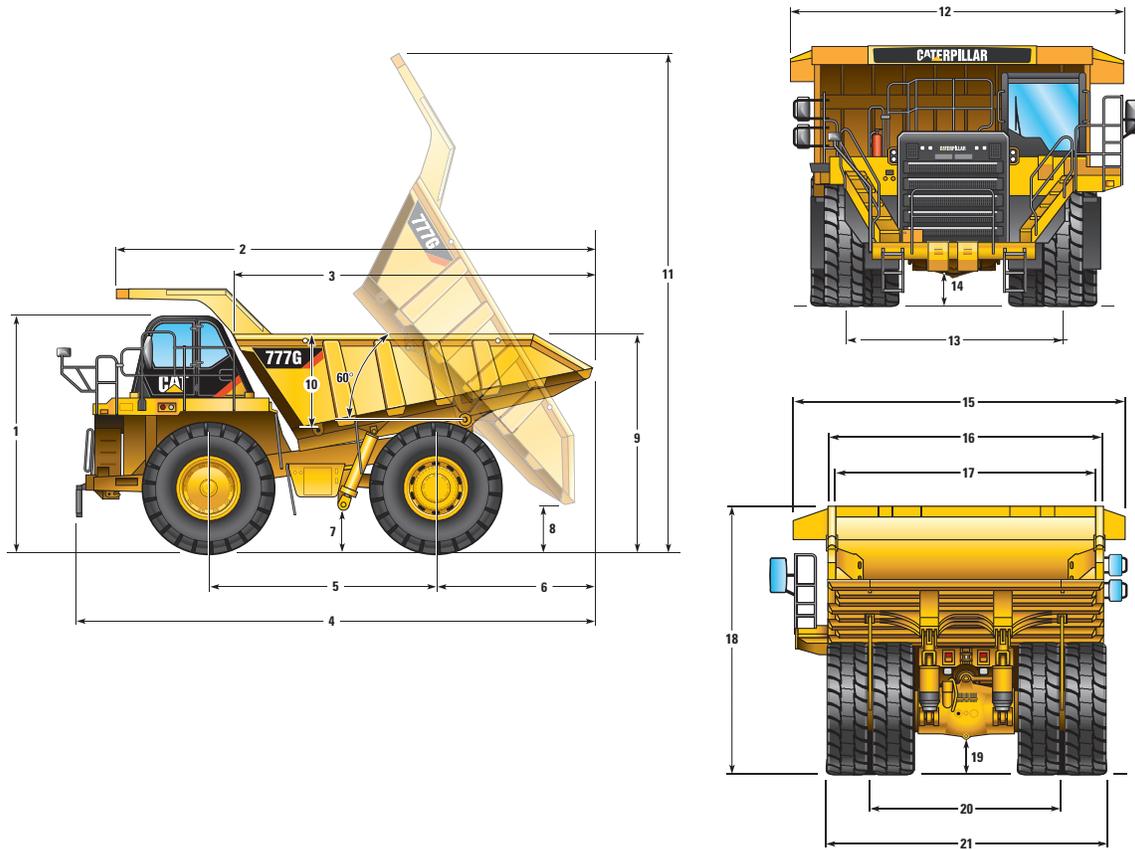
- 90% of loads should fall into this range
- No more than 10% of loads should exceed 10% of the target payload
- No loads should be above 20% of the target payload



777G Off-Highway Truck Specifications

Dimensions

All dimensions are approximate.



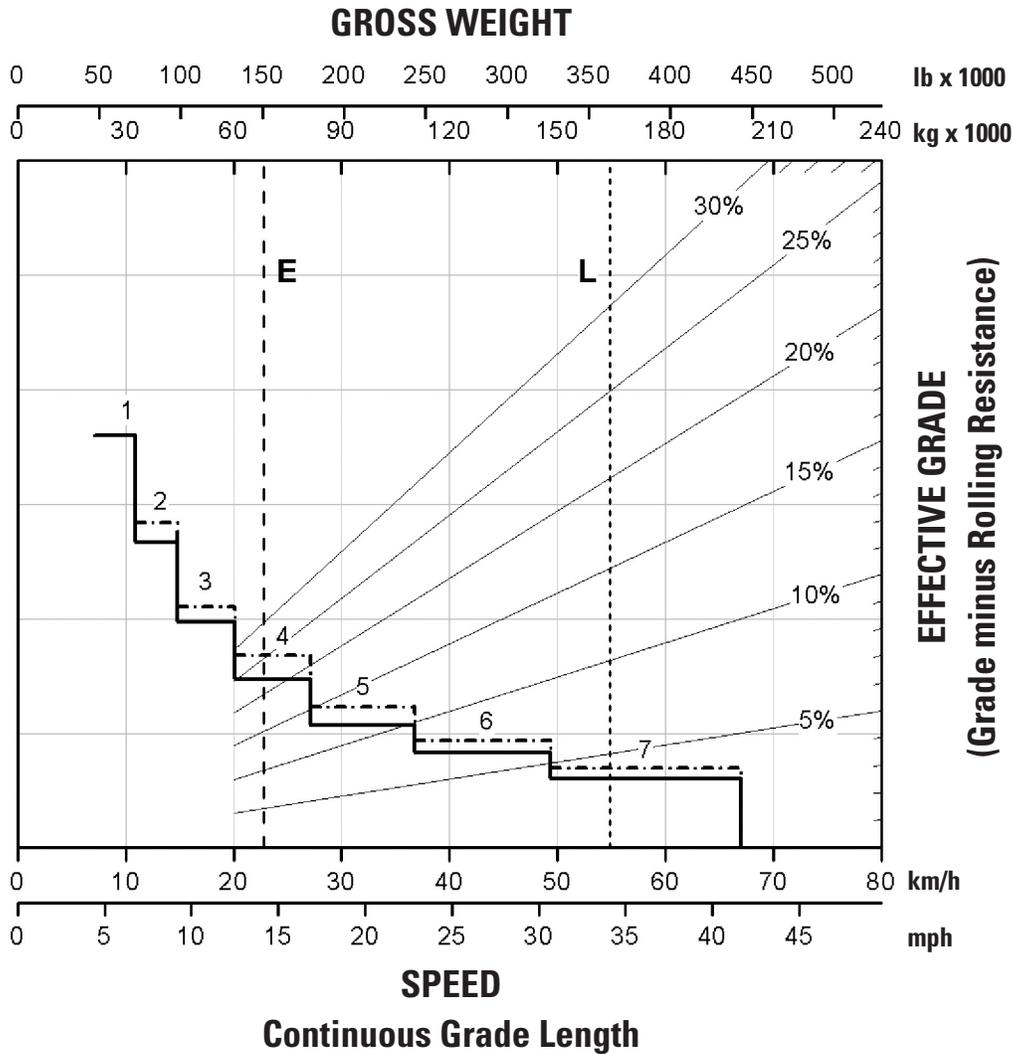
| | Dual Slope | | X Body | | Coal Body 1 | | Coal Body 2 | |
|--|------------|----------|-----------|----------|-------------|----------|-------------|----------|
| 1 Height to Top of ROPS | 4730 mm | 15.50 ft | 4730 mm | 15.50 ft | 4730 mm | 15.50 ft | 4730 mm | 15.50 ft |
| 2 Overall Body Length | 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 |

777G Off-Highway Truck Specifications

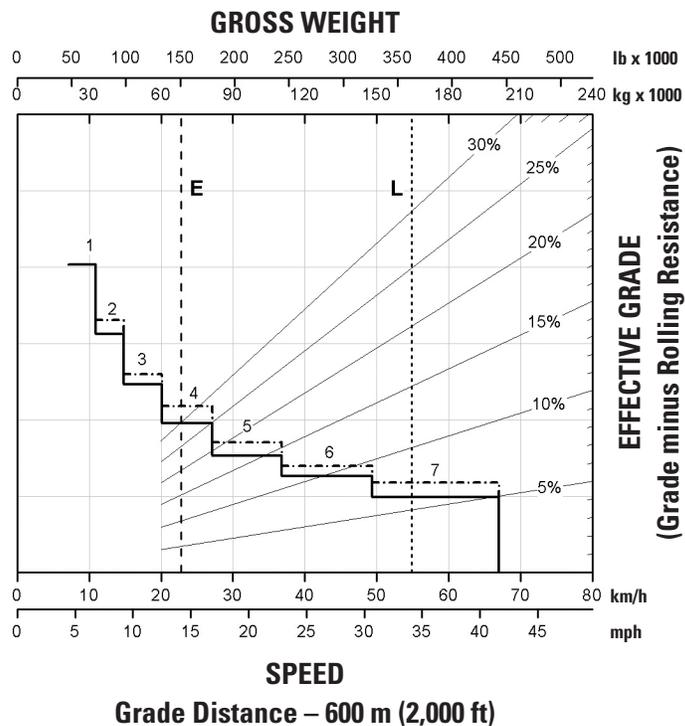
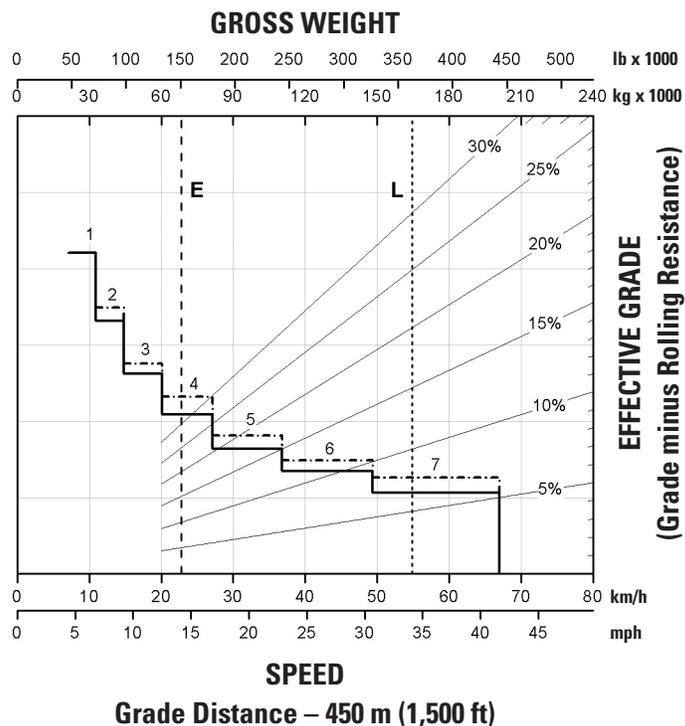
Retarding Performance (Tier 4/Stage V)

To determine retarding performance: Add lengths of all downhill segments and, using this total, refer to proper retarding chart. Read from gross weight down to the percent effective grade. Effective grade equals actual % grade minus 1% for each 10 kg/t (20 lb/ton) of rolling resistance. From this weight-effective grade point, read horizontally to the curve with the highest obtainable gear, then down to maximum descent speed brakes can properly handle without exceeding cooling capacity. The following charts are based on these conditions: 32° C (90° F) ambient temperature, at sea level, with 27.00R49 (E4) tires.

NOTE: Select the proper gear to maintain engine rpm at the highest possible level, without overspeeding the engine. If cooling oil overheats, reduce ground speed to allow transmission to shift to the next lower speed range.



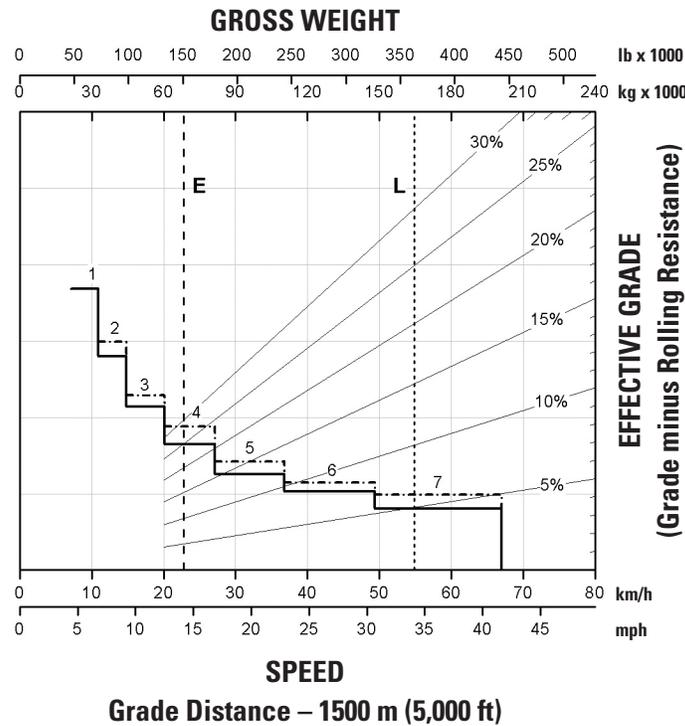
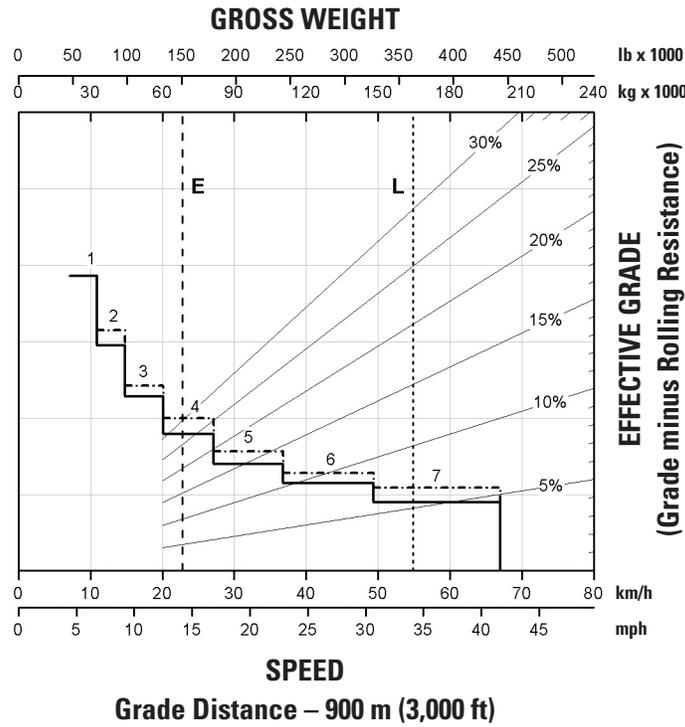
Retarding Performance (Tier 4/Stage V)



----- Engine Brake

777G Off-Highway Truck Specifications

Retarding Performance (Tier 4/Stage V)

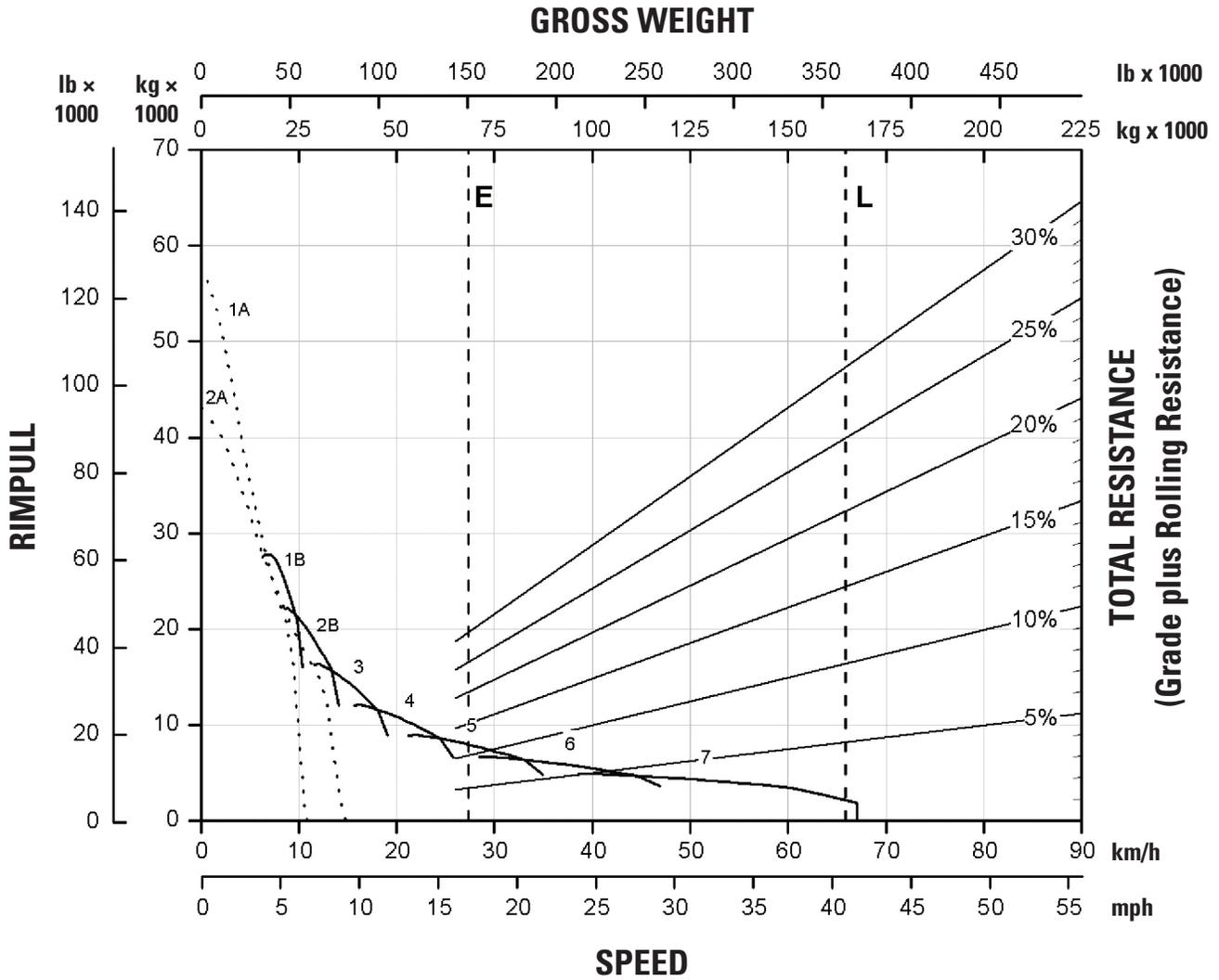


----- Engine Brake

777G Off-Highway Truck Specifications

Gradeability/Speed/Rimpull (Tier 4/Stage V)

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 10 kg/t (20 lb/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.

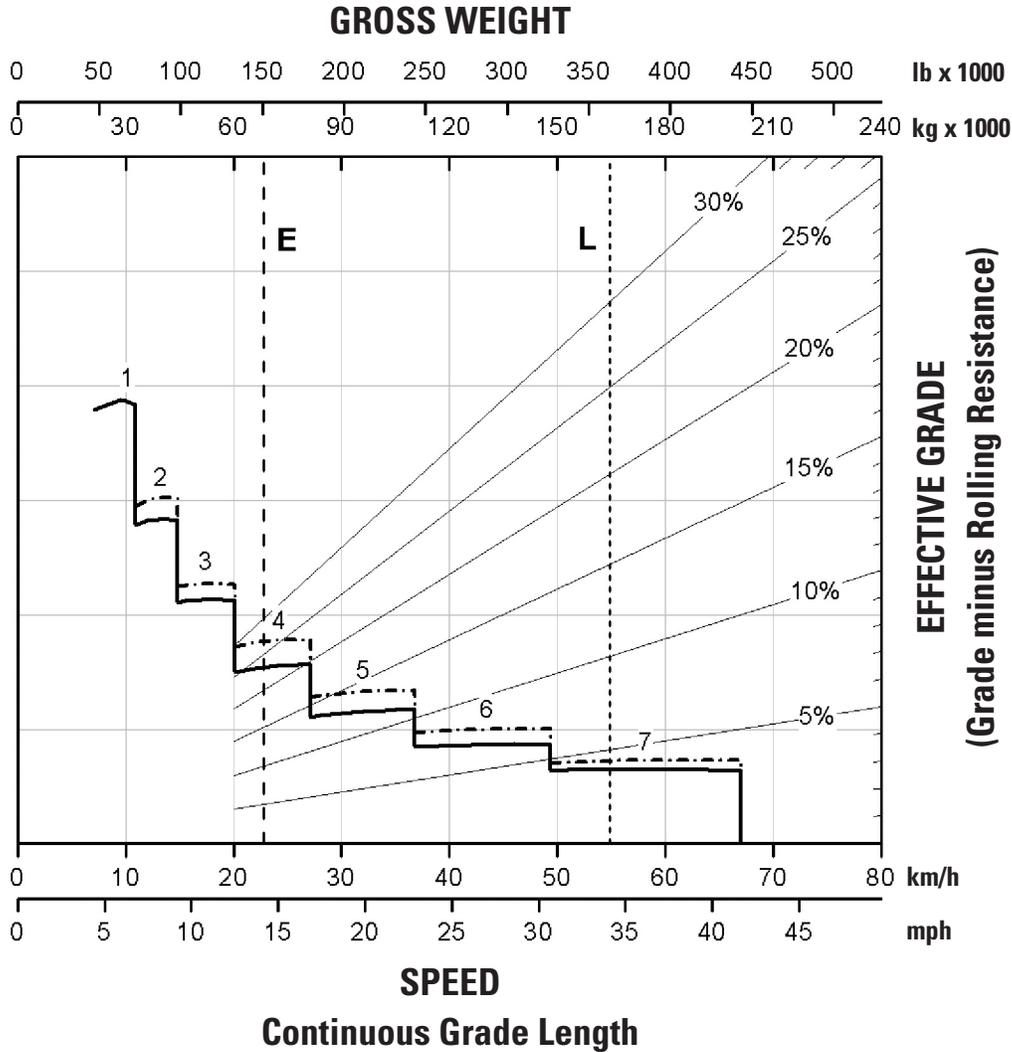


777G Off-Highway Truck Specifications

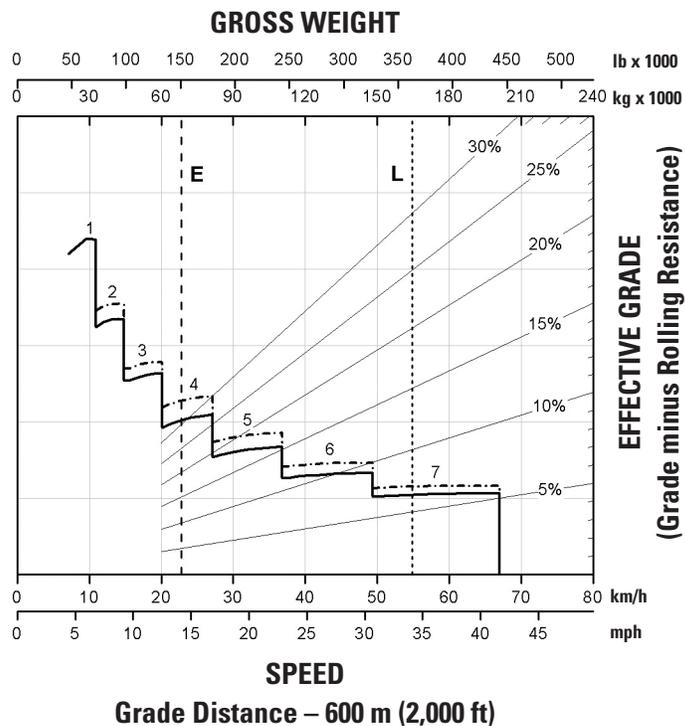
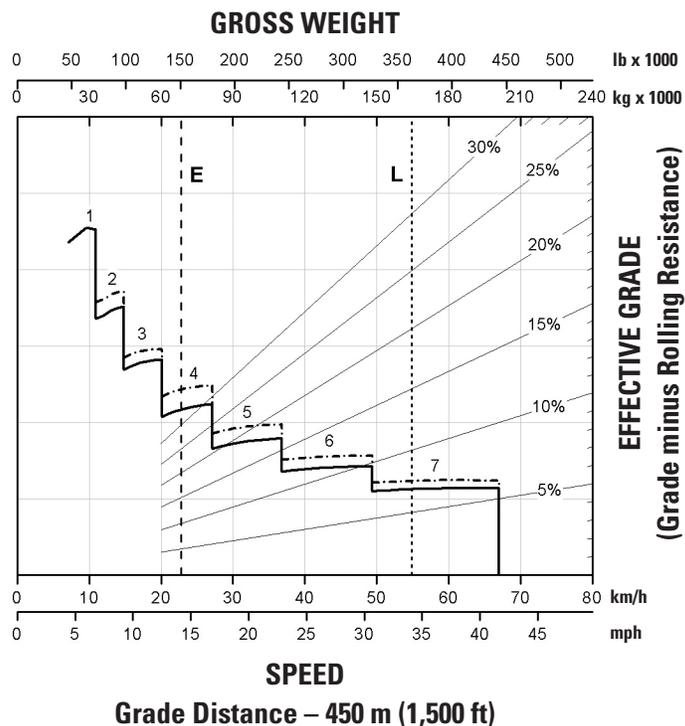
Retarding Performance (Tier 2 Equivalent)

To determine retarding performance: Add lengths of all downhill segments and, using this total, refer to proper retarding chart. Read from gross weight down to the percent effective grade. Effective grade equals actual % grade minus 1% for each 10 kg/t (20 lb/ton) of rolling resistance. From this weight-effective grade point, read horizontally to the curve with the highest obtainable gear, then down to maximum descent speed brakes can properly handle without exceeding cooling capacity. The following charts are based on these conditions: 32° C (90° F) ambient temperature, at sea level, with 24.00R35 (E4) tires.

NOTE: Select the proper gear to maintain engine rpm at the highest possible level, without overspeeding the engine. If cooling oil overheats, reduce ground speed to allow transmission to shift to the next lower speed range.



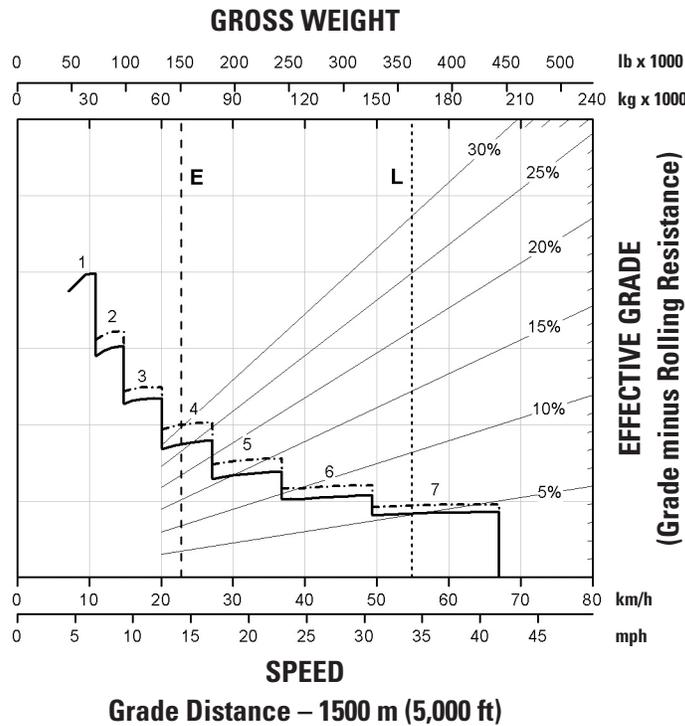
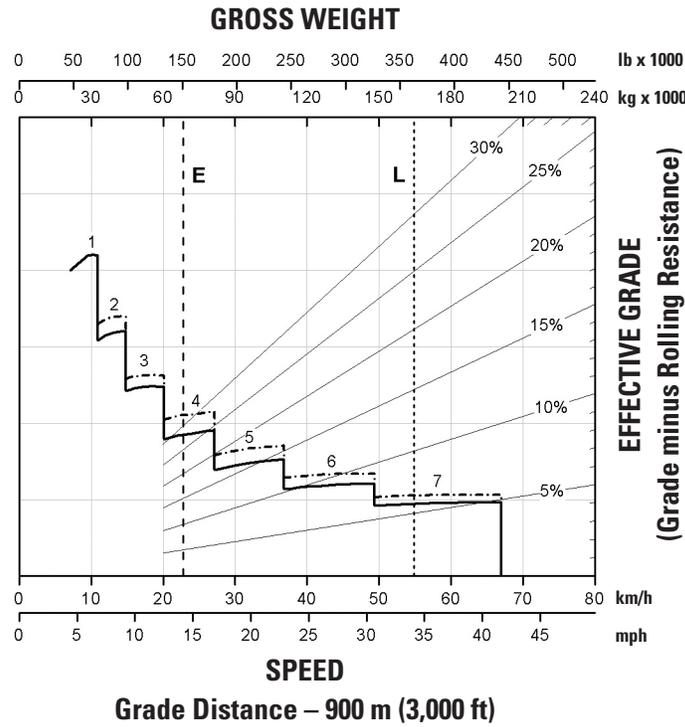
Retarding Performance (Tier 2 Equivalent)



----- Engine Brake

777G Off-Highway Truck Specifications

Retarding Performance (Tier 2 Equivalent)

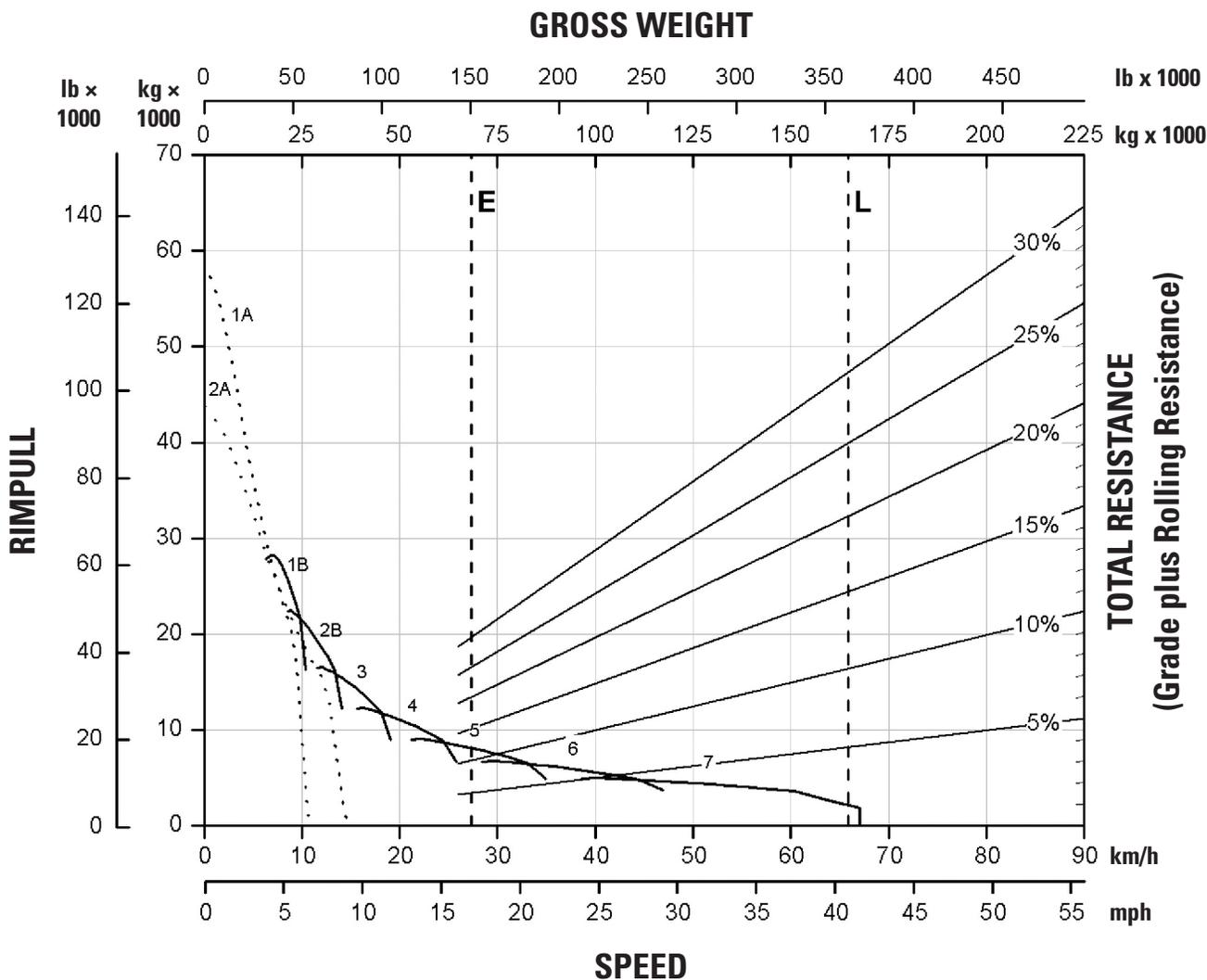


----- Engine Brake

777G Off-Highway Truck Specifications

Gradeability/Speed/Rimpull (Tier 2 Equivalent)

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 10 kg/t (20 lb/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.



Standard Equipment

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

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:
 - 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 (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)

(continued on next page)

Standard Equipment *(continued)*

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

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

777G Optional Equipment

Optional Equipment

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

- Body heat
- Body liners
- Body sideboards
- 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)

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

AEHQ6822-03 (02-2021)
Replaces AEHQ6822-01

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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