

# 770G

## Off-Highway Truck

Whether your business is a quarry, a mine or involves moving earth, the 770G is ruggedly built and designed to help you haul material safely and efficiently. It can be equipped with body options to match your material and hauling requirements. The 770G is simple to maintain, and with the support of your Cat dealer, will offer you years of productive service.

### Safety

Cat® Off-Highway Trucks have industry-leading designs and features to keep your job site productive and your employees comfortable. Cat ergonomic cabs are designed with roll over and falling object protection and they offer excellent visibility to the job site. You can speed limit your Cat truck to manage traffic and slow the trucks with industry leading brake designs and automatic retarding.

### Productivity

Caterpillar has a long history of building Off-Highway Trucks. These trucks are built for quarry, earthmoving and mining applications, and with their purpose-built frames, power train and other key components, have helped customers around the world lower their cost per ton.



### Quality

Caterpillar uses the latest technology to validate the quality of its designs, metallurgy, welding and manufacturing processes. We also build prototype iron, test for extreme environments and place trucks in the hands of customers for field testing prior to production. The 770G can provide you with industry-leading availability and production.

### Sustainability

Cat products are designed to bring value to your business and the environment. The 770G is fuel efficient, productive and is built for long life in your off-road applications.



# 770G Off-Highway Truck Specifications

## Engine

Engine Model	Cat® C15 ACERT™	
Rated Engine Speed	1,800 rpm	
Gross Power – SAE J1995	381 kW	511 hp
Net Power – SAE J1349	360 kW	483 hp
Net Power – ISO 9249	365 kW	476 hp
Net Power – 80/1269/EEC	365 kW	489 hp
Engine Power – ISO 14396	377 kW	506 hp
Net Torque – SAE J1349	2280 N·m	1,682 lb-ft
Number of Cylinders	6	
Bore	137 mm	5.4 in
Stroke	171 mm	6.7 in
Displacement	15.2 L	927.6 in <sup>3</sup>

- 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 3000 m (9,843 ft) altitude.
- Compliant with U.S. Environmental Protection Agency Tier 3 and European Union Stage IIIA emission standards.
- Compliant with U.S. EPA Tier 2 and Stage II emission standards.

## Weights – Approximate

Target Gross Machine Weight	71 214 kg	157,000 lb
Chassis Weight	24 900 kg	54,895 lb
Body Weight	7665 kg	16,898 lb

- Chassis weight with 100% fuel, hoist, body mounting group, rims and tires.
- Body weight is the standard dual slope body with no liner and will vary depending on configuration.

## Operating Specifications

Nominal Payload Class	38.6 tonnes	42.6 tons
Body Capacity (SAE 2:1)	25.2 m <sup>3</sup>	33.0 yd <sup>3</sup>
Top Speed – Loaded	73.5 km/h	45.7 mph

- Refer to the Caterpillar 10/10/20 Overload Policy for maximum gross machine weight limitations.
- Capacity with dual slope body with no liner.

## Transmission

Forward 1	11.9 km/h	7.4 mph
Forward 2	16.3 km/h	10.1 mph
Forward 3	22.1 km/h	13.7 mph
Forward 4	29.6 km/h	18.4 mph
Forward 5	40.2 km/h	25.0 mph
Forward 6	54.2 km/h	33.7 mph
Forward 7	73.5 km/h	45.7 mph
Reverse	15.6 km/h	9.7 mph

- Maximum travel speeds with standard 18.00R33 (E4) tires.

## Final Drives

Differential Ratio	2.12:1
Planetary Ratio	4.80:1
Total Reduction Ratio	10.18:1

## Brakes

Brake Surface – Front	1395 cm <sup>2</sup>	216 in <sup>2</sup>
Brake Surface – Rear	40 225 cm <sup>2</sup>	6,235 in <sup>2</sup>
Brake Standards	ISO 3450:1996	

## Body Hoists

Pump Flow – High Idle	448 L/min	118 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	7.5 seconds (approx.)	
Body Lower Time – Float	10.0 seconds (approx.)	
Body Power Down – High Idle	10.0 seconds (approx.)	

## Capacity – Dual Slope – 100% Fill Factor

Struck	17.6 m <sup>3</sup>	23.01 yd <sup>3</sup>
Heaped 2:1 (SAE)	25.2 m <sup>3</sup>	32.9 yd <sup>3</sup>

## Capacity – Flat Floor – 100% Fill Factor

Struck	17.6 m <sup>3</sup>	23.01 yd <sup>3</sup>
Heaped 2:1 (SAE)	25.2 m <sup>3</sup>	32.9 yd <sup>3</sup>

# 770G Off-Highway Truck Specifications

## Weight Distributions – Approximate

Front Axle – Empty	51.9%
Front Axle – Loaded	34.5%
Rear Axle – Empty	48.1%
Rear Axle – Loaded	65.5%

## Suspension

Empty Loaded Cylinder Stroke Front	234 mm	9.2 in
Empty Loaded Cylinder Stroke Rear	149 mm	5.9 in
Rear Axle Oscillation	8.9°	

## Service Refill Capacities

Fuel Tank	530 L	140 gal
Cooling System	125 L	33 gal
Crankcase	38 L	10 gal
Differentials and Final Drives	180 L	47 gal
Steering Tank	55 L	14.5 gal
Steering System (includes tank)	87 L	23 gal
Brake/Hoist Hydraulic Tank	145 L	38 gal
Brake Hoist System	227 L	60 gal
Torque Converter/ Transmission System	64 L	17 gal

## Steering

Steering Standards	ISO 5010:2007	
Steer Angle	40.5°	
Turning Diameter – Front	17.6 m	57.7 ft
Turning Circle Clearance Diameter	20.3 m	66.6 ft

## Tires

Standard Tire	18.00R33 (E4)
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- Productive capabilities of the 770G 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 evaluates all job conditions and consults 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.

## Sound

### Sound Standards

- The dynamic operator sound pressure level is 79 dB(A) when “ISO R396:2008” is used to measure the value for an enclosed cab. The cab was properly installed and maintained. The test was conducted with the cab doors and the cab windows closed.
- 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.

# 770G Off-Highway Truck Specifications

## Weight/Payload Calculation

770G – Flat Floor		362-8600 Body	362-8601 Body + Steel Liner	362-8602 Body + Rubber Liner	362-8602* Rubber Liner with 150 mm (5.9 in) Side Boards	362-8650 Quarry Body Steel
Floor/Sidewall/Frontwall		16/10/12 mm (0.62/0.39/0.47 in)	16/10/12 + 16/8/8 mm (0.62/0.39/0.47 + 0.62/0.31/0.31 in)	16/10/12 + 102/8/8 mm (0.62/0.39/0.47 + 4.01/0.31/0.31 in)		25/14/16 mm (0.98/0.55/0.62 in)
Payload Capacity		25.2 m <sup>3</sup> (33.0 yd <sup>3</sup> )	24.9 m <sup>3</sup> (32.6 yd <sup>3</sup> )	23.6 m <sup>3</sup> (30.9 yd <sup>3</sup> )	26.1 m <sup>3</sup> (34.1 yd <sup>3</sup> )	24.9 m <sup>3</sup> (32.6 yd <sup>3</sup> )
Floor Thickness		16 mm (0.630 in)	32 mm (1.26 in)	102 mm (4.0 in)	102 mm (4.0 in)	25 mm (1.0 in)
Target Gross Machine Weight	kg (lb)	71 214 (157,000)	71 214 (157,000)	71 214 (157,000)	71 214 (157,000)	71 214 (157,000)
Empty Chassis Weight	kg (lb)	24 455 (53,913)	24 455 (53,913)	24 455 (53,913)	24 455 (53,913)	24 455 (53,913)
Body System Weight	kg (lb)	7850 (17,306)	10 790 (23,788)	11 405 (25,143)	11 770 (25,948)	10 095 (22,255)
Empty Machine Weight	kg (lb)	32 305 (71,220)	35 245 (77,701)	35 860 (79,057)	36 255 (79,862)	34 550 (76,169)
<b>Attachments</b>						
Fuel Tank Size	L (gal)	529 (140)	529 (140)	529 (140)	529 (140)	529 (140)
Fuel Tank – 100% Fill	kg (lb)	445 (983)	445 (983)	445 (983)	445 (983)	445 (983)
Empty Operating Weight**	kg (lb)	32 750 (72,202)	35 690 (78,682)	36 305 (80,038)	36 670 (80,842)	34 995 (77,152)
Target Payload*	kg (lb)	38 464 (84,798)	35 524 (78,318)	34 909 (76,961)	34 544 (76,156)	36 219 (79,848)
Target Payload*	tonnes (tons)	38.5 (42.4)	35.5 (39.2)	34.9 (38.5)	34.5 (38.1)	36.2 (39.9)
<b>10/10/20 Policy*</b>						
Nominal Payload – 100%	kg (lb)	38 464 (84,798)	35 524 (78,316)	34 909 (76,961)	34 544 (76,156)	36 219 (79,848)
Maximum Working Payload – 110%	kg (lb)	42 311 (93,278)	39 077 (86,148)	38 400 (84,657)	37 999 (83,772)	39 841 (87,834)
Not to Exceed Payload – 120%	kg (lb)	46 147 (101,758)	42 629 (93,980)	41 891 (92,353)	41 453 (91,387)	43 463 (95,818)
Maximum Gross Machine Weight*	kg (lb)	78 907 (173,958)	78 319 (172,662)	78 196 (172,391)	78 123 (172,230)	78 458 (172,968)
<b>770G – Dual Slope</b>						
		362-8610 Body	362-8611 Body + Steel Liner	362-8612 Tail Liner – Rear		
Floor/Sidewall/Frontwall		16/10/12 mm (0.62/0.39/0.47 in)	16/10/12 + 16/8/8 mm (0.62/0.39/0.47 + 0.62/0.31/0.31 in)	16/10/12 + 16/8/0 mm (0.62/0.39/0.47 + 0.62/0.31/0 in)		
Payload Capacity		25.2 m <sup>3</sup> (33.0 yd <sup>3</sup> )	24.8 m <sup>3</sup> (32.4 yd <sup>3</sup> )	25.1 m <sup>3</sup> (32.8 yd <sup>3</sup> )		
Floor Thickness		16 mm (0.630 in)	32 mm (1.26 in)	32 mm (1.26 in)		
Target Gross Machine Weight	kg (lb)	71 214 (157,000)	71 214 (157,000)	71 214 (157,000)		
Empty Chassis Weight	kg (lb)	24 455 (53,913)	24 455 (53,913)	24 455 (53,913)		
Body System Weight	kg (lb)	7665 (16,898)	10 560 (23,281)	8634 (19,034)		
Empty Machine Weight	kg (lb)	32 120 (70,812)	35 015 (77,194)	33 089 (72,948)		
<b>Attachments</b>						
Fuel Tank Size	L (gal)	529 (140)	529 (140)	529 (140)		
Fuel Tank – 100% Fill	kg (lb)	445 (983)	445 (983)	445 (983)		
Empty Operating Weight**	kg (lb)	32 565 (71,793)	35 460 (78,175)	33 534 (73,929)		
Target Payload*	kg (lb)	38 649 (85,207)	35 754 (78,824)	37 680 (83,071)		
Target Payload*	tonnes (tons)	38.6 (42.6)	35.7 (39.4)	37.7 (41.5)		
<b>10/10/20 Policy*</b>						
Nominal Payload – 100%	kg (lb)	38 649 (85,206)	35 754 (78,824)	37 680 (83,070)		
Maximum Working Payload – 110%	kg (lb)	42 514 (93,726)	39 330 (86,706)	41 448 (91,377)		
Not to Exceed Payload – 120%	kg (lb)	46 379 (102,247)	42 905 (94,588)	45 216 (99,683)		
Maximum Gross Machine Weight*	kg (lb)	78 944 (174,040)	78 365 (172,763)	78 750 (173,612)		

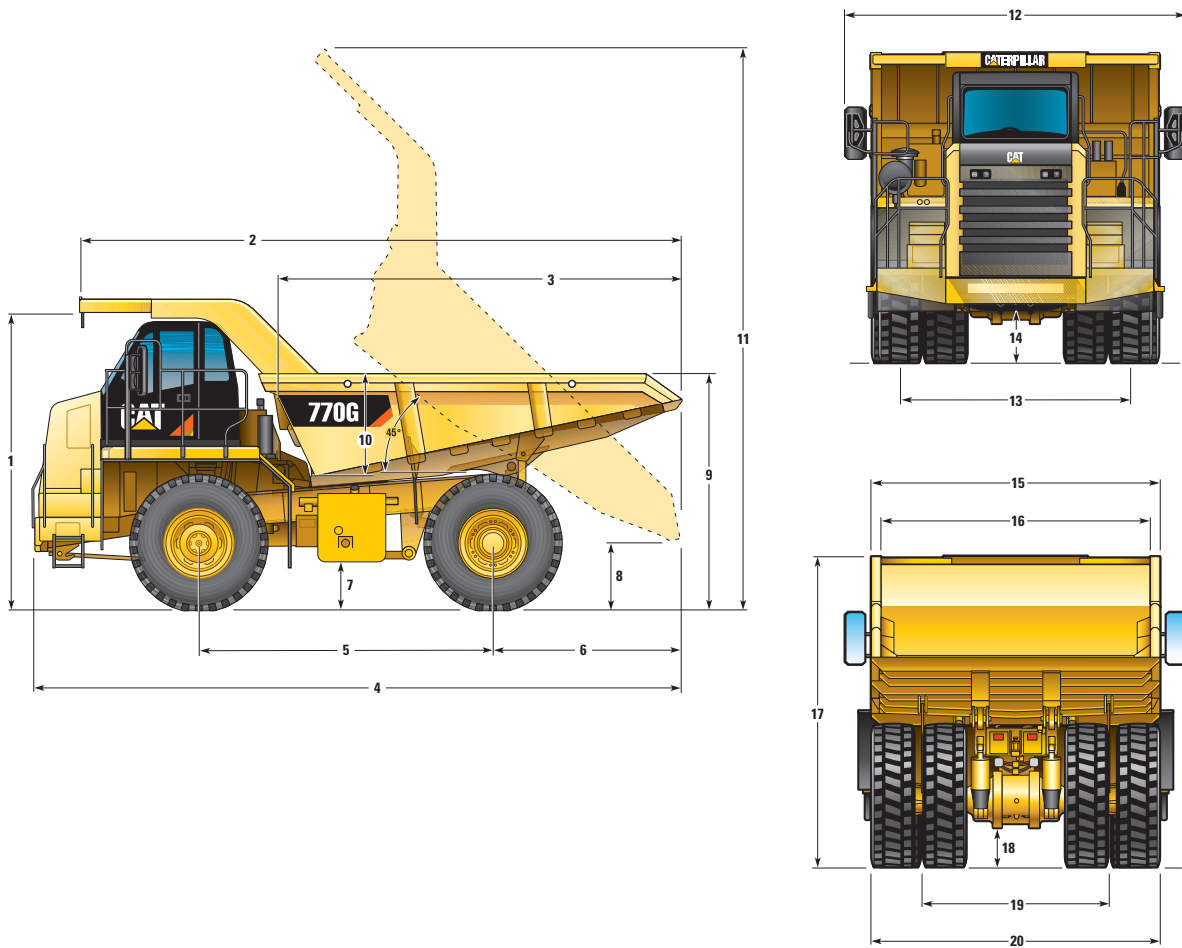
\*Refer to Caterpillar 10/10/20 overload policy.

\*\*Includes weight of all attachments.

# 770G Off-Highway Truck Specifications

## Dimensions

All dimensions are approximate.



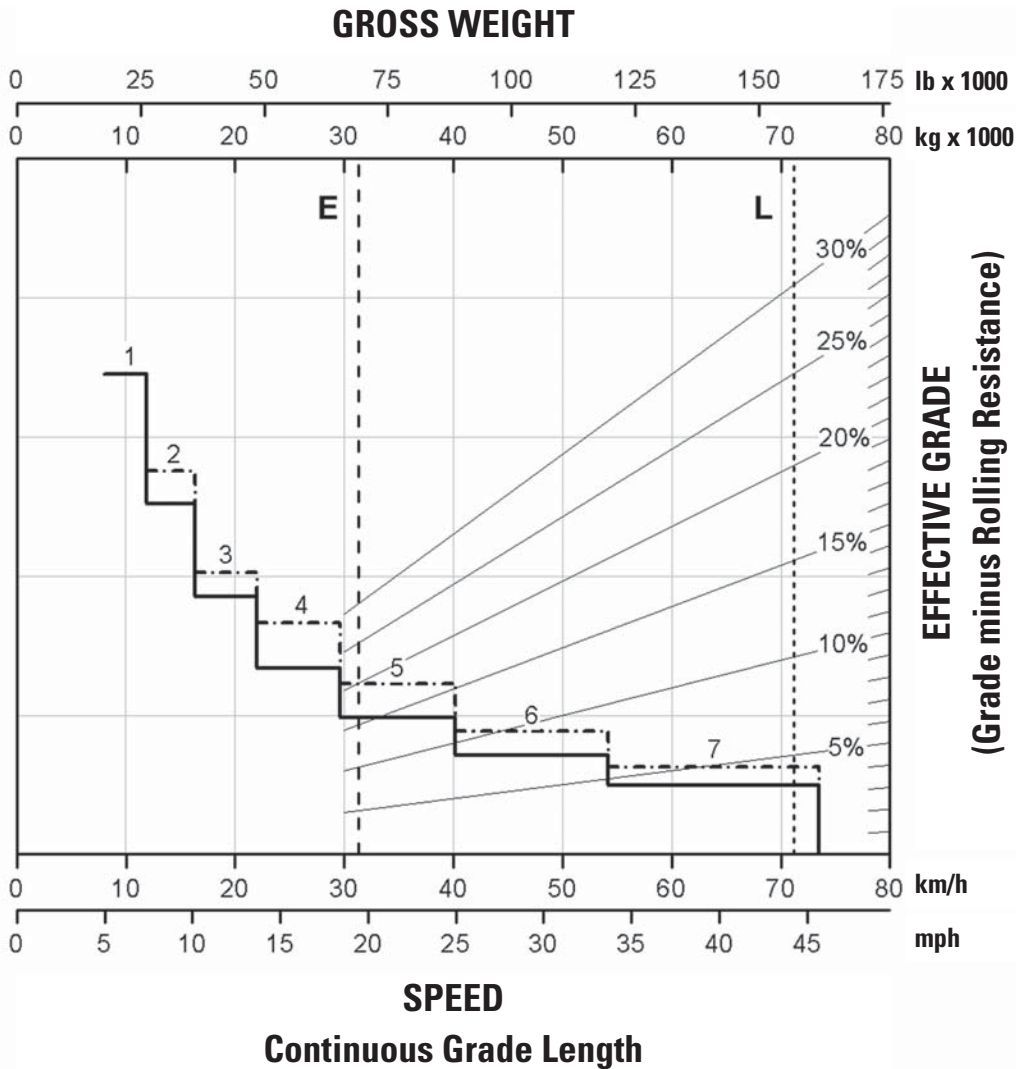
1	Height to Top of ROPS	3958 mm	12.9 ft
2	Overall Body Length	8165 mm	26.7 ft
3	Inside Body Length	5635 mm	18.4 ft
4	Overall Length	8796 mm	28.8 ft
5	Wheelbase	3960 mm	12.9 ft
6	Rear Axle to Tail	2586 mm	8.4 ft
7	Ground Clearance	641 mm	2.1 ft
8	Dump Clearance	535 mm	1.7 ft
9	Loading Height – Empty	3230 mm	10.6 ft
10	Inside Body Depth – Maximum	1390 mm	4.5 ft
11	Overall Height – Body Raised	8280 mm	27.1 ft
12	Operating Width	4780 mm	15.6 ft
13	Centerline Front Tire Width	3110 mm	10.2 ft
14	Engine Guard Clearance	645 mm	2.1 ft
15	Outside Body Width	3931 mm	12.9 ft
16	Inside Body Width	3642 mm	11.9 ft
17	Front Canopy Height	4211 mm	13.8 ft
18	Rear Axle Clearance	525 mm	1.7 ft
19	Centerline Rear Dual Tire Width	2536 mm	8.3 ft
20	Overall Tire Width	3693 mm	12.1 ft

# 770G Off-Highway Truck Specifications

## Retarding Performance

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 18.00R33 tires.

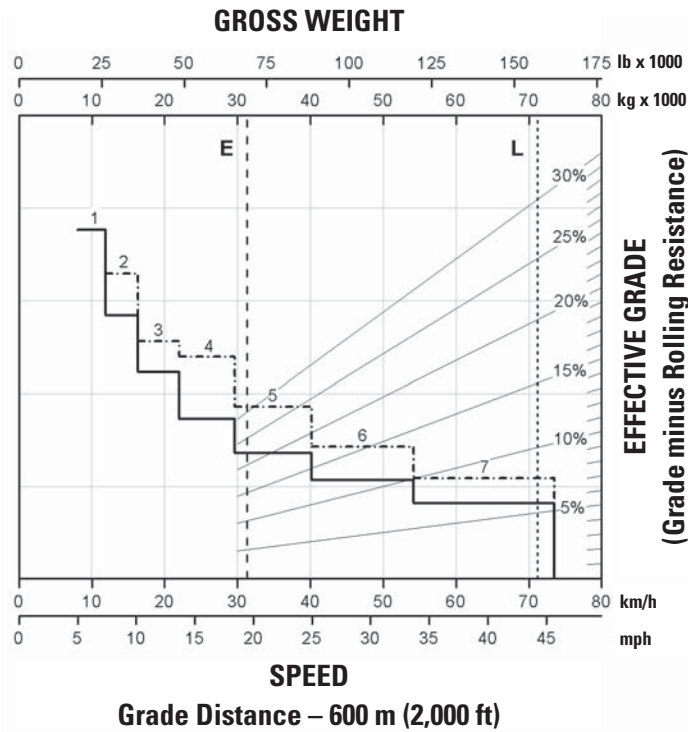
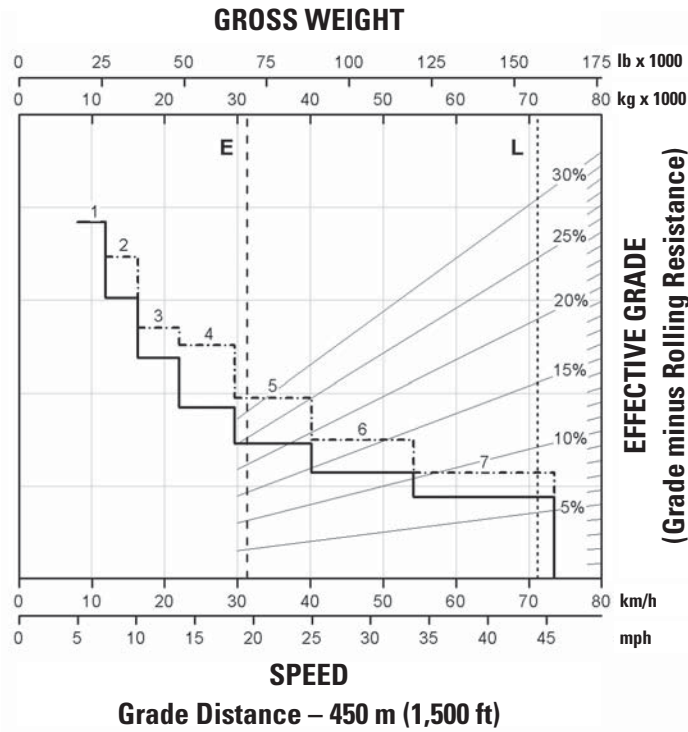
**NOTE:** Select the proper gear to maintain engine rpm at the highest possible level, without overspeeding the engine. If cooling oil overheats, reduce ground speed to allow transmission to shift to the next lower speed range.





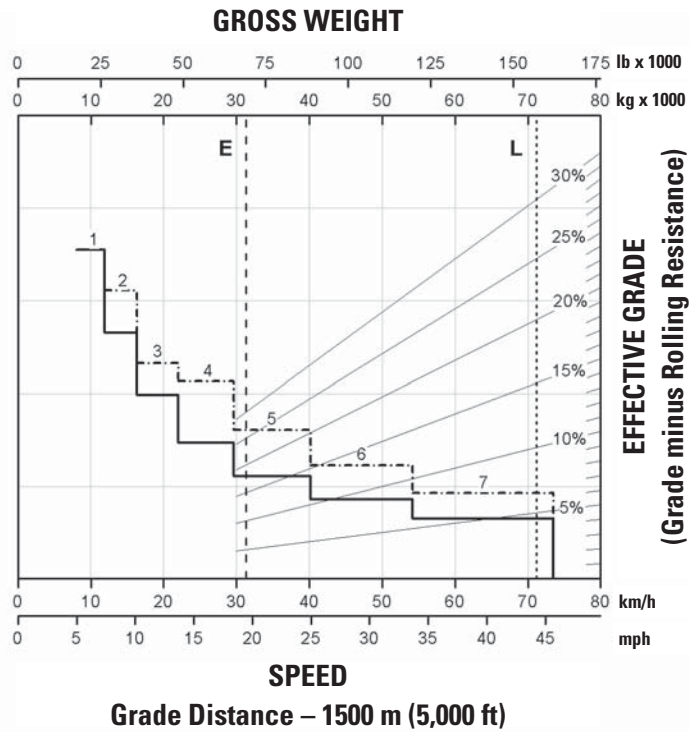
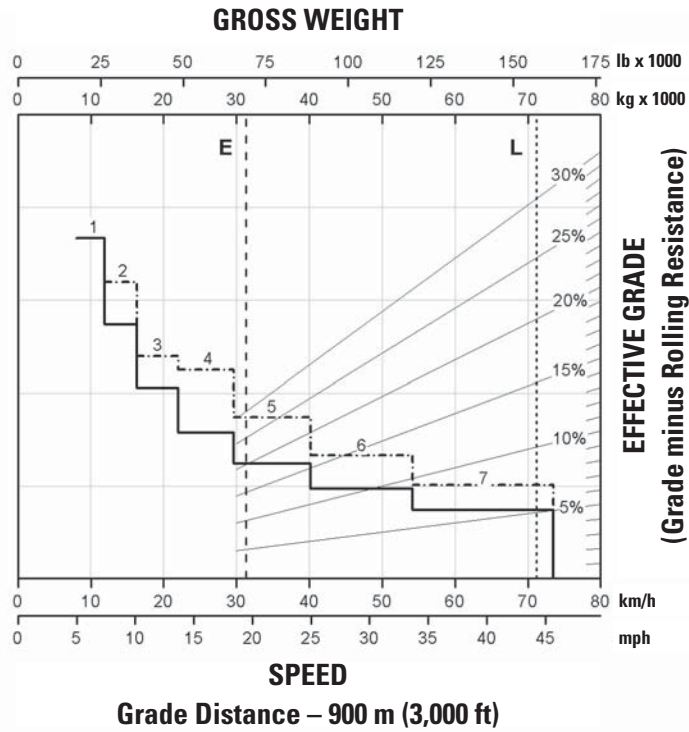
# 770G Off-Highway Truck Specifications

## Retarding Performance



# 770G Off-Highway Truck Specifications

## Retarding Performance

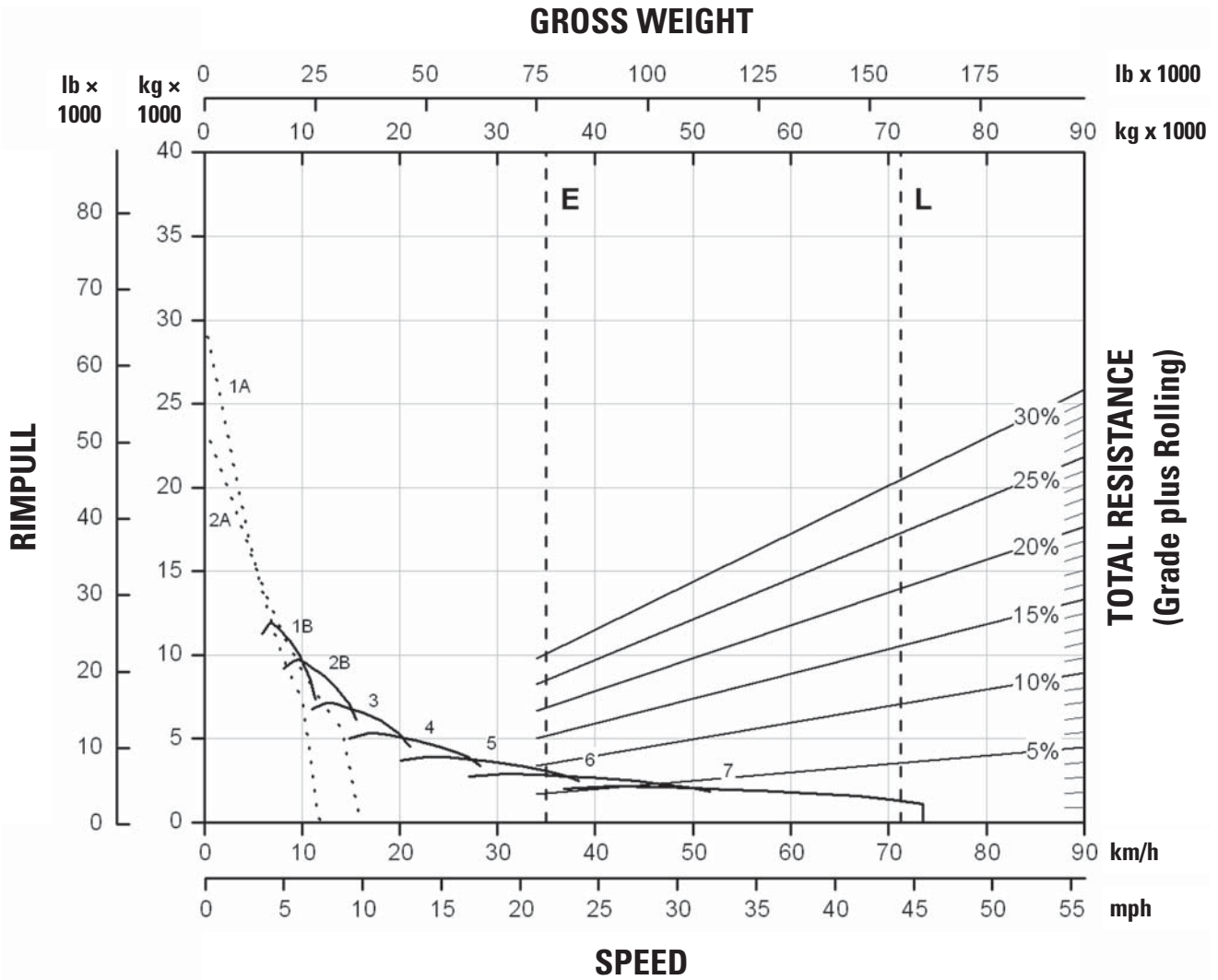




# 770G Off-Highway Truck Specifications

## Gradeability/Speed/Rimpull

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.



# 770G Off-Highway Truck Standard Equipment

## Standard Equipment

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

### ELECTRICAL

- Alarm, backup
- Alternator, 115 ampere
- Auxiliary jump start receptacle
- Batteries, maintenance-free, 12V (2), 190 amp-hour
- Electrical system, 24V
- Lighting system:
  - Backup light (halogen)
  - Directional signals/hazard warning (front and rear LED)
  - Headlights, (halogen) with dimmer
  - Operator access courtesy lights (Developing Market Only)

### PRODUCT LINK COMMUNICATIONS

- Product Link Ready

### GUARDS

- Engine crankcase

### OPERATOR ENVIRONMENT

- Air conditioning (Developing Market Only)
- 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:
  - Air cleaner service indicator – electronic
  - Brake oil temperature gauge
  - Coolant temperature gauge
  - Hour meter
  - Tachometer
  - Engine overspeed indicator
  - Fuel level
  - Speedometer with odometer
  - Transmission gear indicator
- Heater/defroster (Developing Market Only)  
(11 070 kCal/43,930 BTU)
- Hoist lever
- Horn, electric
- Light – dome
- Light – courtesy
- Messenger, display unit
- Mirrors
- Power port, 12V
- ROPS cab, insulated/sound suppressed
- Seat, Cat Comfort
  - 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, tinted glass
- Throttle lock
- Windshield wiper (intermittent) and washer

### POWER TRAIN

- Air-To-Air Aftercooler (ATAAC)
- Air cleaner with precleaner (1)
- Automatic cold mode idle control
- Electric start
- Turbocharger
- Braking system, hydraulic actuated:
  - Automatic Retarder Control (ARC) (utilizes rear oil-cooled, multiple disc brakes)
  - Brake release motor (towing)
  - Caliper-disc (front)
  - Oil-cooled, multiple disc (rear)
  - Parking
  - Secondary
  - Service
- Transmission:
  - 7 speed automatic powershift
  - Body up shift inhibitor
  - Controlled throttle shifting
  - 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, front and rear

### OTHER STANDARD EQUIPMENT

- Body safety pin (secures body in up position)
- Body down indicator
- CD ROM parts book
- Fan, hydraulic demand
- Fuel tank (530 L/140 gal)
- Guard, engine compartment
- Guard, mud
- Ground level battery disconnect
- Ground level engine shutdown
- Ground level grease fittings
- Reservoirs (separate):
  - Brake/converter/hoist
  - Steering
  - Transmission/torque converter
- Rims 13 × 33
- Rock ejectors
- Service platform, left and right side
- Supplemental steering (automatic)
- Tie down eyes
- Tow hooks (front)/Tow pin (rear)
- Vandalism protection locks

### ANTIFREEZE

- Extended Life Coolant to –35° C (–30° F)

## Optional Equipment

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

### WEATHER PACKAGES

#### PKG, WEATHER STANDARD

Includes the standard weather package with no heated mirrors

#### PKG COLD WEATHER PLUS

Includes heated mirrors and fuel heater

#### PKG, WEATHER PREMIUM

Includes fuel heater, ether aid and heated mirrors

#### PKG COLD WEATHER MAX

240V package, coolant heater, ether aid, heated mirrors

### SERVICE PACKAGES

#### SERVICEABILITY STANDARD

#### SERVICEABILITY PLUS

Centralized grease fittings

#### SERVICEABILITY SUPERIOR

Auto lube option

### PERFORMANCE PACKAGES

#### PERFORMANCE PACKAGE – STANDARD

Standard brakes front dry brakes and rear oil-cooled, multiple disc brakes.

Includes front brake disconnect switch. Utilizes rear-oil cooled, multiple disc brakes.

#### PERFORMANCE PACKAGE – PLUS

Standard Performance Package + Traction Control System

#### PERFORMANCE PACKAGE – SUPERIOR

Standard Performance Package + Traction Control System  
+ Extended life brakes

### ENGINE ARRANGEMENTS

Tier 2 Equivalent C15 ACERT diesel engine

Tier 3 Equivalent C15 ACERT diesel engine

Cat Engine Brake

### EXHAUST PACKAGES

Muffler

Body heat/diverter

### BODY OPTIONS

Flat floor

Quarry body

Dual slope

Steel liner option (not available on Quarry body)

Rubber liner option

Sideboards

### BATTERY OPTIONS

Two batteries

Four batteries

### LIGHTING PACKAGES

HID option

Tires

### DISPLAYS

Messenger display

Languages for messenger display

TPMS System

### OPERATOR ENVIRONMENT

Heat

Air conditioning

### FILTERS

Precleaner

### PRODUCT LINK

Product Link GSM

Product Link GPS

No Product Link

WAVS cameras

Spare rims

Wheel chocks

Sound Supression Package

Fast fill fuel

# 770G Off-Highway Truck

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](http://www.cat.com).

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