



773

Off-Highway Truck

Technical Specifications

Configurations and features may vary by region. Please consult your Cat® dealer for availability in your area.

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Engine

Engine Model	Cat® 3412E	
Rated Engine Speed	2,000 rpm	
Gross Power – SAE J1995	567 kW	760 hp
Net Power – SAE J1349	537 kW	720 hp
Net Torque @ 1,300 rpm	3436 N·m	2,534 lb ft
Net Torque Rise	33%	
Number of Cylinders	12	
Bore	137 mm	5.4 in
Stroke	152 mm	6.0 in
Displacement	27 L	1,649 in ³

- These engine ratings apply at 2,000 rpm when tested under the specified condition for the specified standard in effect at the time of manufacture.
- Power rating conditions based on standard conditions of 25° C (77° F) and 99 kPa (29.32 in Hg) dry barometer, using 35° C (95° F) API gravity fuel having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 30° C (86° F) [reference a fuel density of 838.9 g/L (7.001 lb/gal)].
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator.
- No derating required up to 3048 m (10,000 ft) altitude.
- Meets China Nonroad Stage III emission standards, equivalent to U.S. EPA Tier 2.

Transmission

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	50.0 km/h	31.1 mph
Forward 7	67.8 km/h	42.1 mph
Reverse	13.1 km/h	8.1 mph

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

Final Drives

Differential Ratio	3.64:1	
Planetary Ratio	4.8:1	
Total Reduction Ratio	17.48:1	

- Planetary, full floating.

Brakes

Brake Surface – Front	1395 cm ²	216 in ²
Brake Surface – Rear	61 269 cm ²	9,496 in ²
Brake Standards	ISO 3450:2011	

Body Hoists

Pump Flow – High Idle	562 L/min	148 gal/min
Relief Valve Setting – Raise	17 225 kPa	2,500 psi
Relief Valve Setting – Lower	3445 kPa	500 psi
Body Raise Time – High Idle	9.5 Seconds	
Body Lower Time – Float	12.5 Seconds	

- Twin, two-stage hydraulic cylinders mounted outside the main frame; double acting cylinders in second stage.
- Power raise in both stages and power down in second stage.

Capacity – Dual Slope – 100% Fill Factor

Struck	26.6 m ³	34.8 yd ³
Heaped (SAE 2:1)*	35.2 m ³	46.0 yd ³

- Contact your local Cat dealer for body recommendation.

* ISO 6483:1980.

Weight Distributions – Approximate

Front Axle – Empty	46.6%
Front Axle – Loaded	33.8%
Rear Axle – Empty	53.4%
Rear Axle – Loaded	66.2%

Suspension

Effective Cylinder Stroke – Front	234 mm	5.2 in
Effective Cylinder Stroke – Rear	149 mm	5.9 in
Rear Axle Oscillation	± 8.1°	

Sound

Sound Standards	ISO 6396:2008, SAE J1166:2008
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- For cab offered by Caterpillar, the operator sound exposure Leq (Equivalent Sound Pressure Level) is 80 dB(A) when measured according to work cycle procedures specified in SAE J1166:2008. This occurs when the cab is properly installed and maintained. The test was conducted with doors and windows closed.
- For cab offered by Caterpillar, the dynamic operator sound pressure level is 80 dB(A) as per ISO 6396:2008. This occurs when the cab is properly installed and maintained. The test was conducted with doors and 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.

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential =1430). The system contains 2.4 kg (5.29 lbs) of refrigerant, which has a CO₂ equivalent of 3.43 metric tonnes (3.78 tons).

Steering

Steer Angle	31°	
Turning Diameter Front Wheel Track	22 m	72 ft 2 in
Turning Circle Clearance Diameter	25 m	82 ft 0 in

- Steering standards meet SAE J1511 FEB94 and ISO 5010:2007.
- Separate hydraulic system prevents cross-contamination. Steering wheel effort is low and steering wheel cycle times are reduced with a new variable displacement, piston-type steering pump.

ROPS/FOPS

- Rollover Protective Structure (ROPS) for cab offered by Caterpillar meets ISO 3471:2008 for operator and ISO 13459:2012 for trainer.
- Falling Objects Protective Structure (FOPS) meets ISO 3449:2005 Level II FOPS criteria for operator and ISO 13459:2012 Level II criteria for trainer.

Tires

Standard Tire	24.00R35 (E4)
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- Productive capabilities of the 773 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.

Service Refill Capacities

Fuel Tank	700 L	185 gal
Cooling System	122 L	32 gal
Crankcase	68 L	18 gal
Differentials and Final Drives	155 L	41 gal
Steering Tank	34 L	9 gal
Steering System (includes tank)	60 L	16 gal
Brake/Hoist Hydraulic Tank	133 L	35 gal
Brake/Hoist System (includes tank)	307 L	81 gal
Torque Converter/ Transmission System	53 L	14 gal
Torque Converter/Transmission System (includes sump)	72 L	19 gal

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Weight/Payload Calculation

DUAL SLOPE

Machine Weights Based on Configuration		Without Liner	With Liner
Base: Floor/Sidewall/Frontwall	mm (in)	16/8/10 (0.62/0.31/0.39)	16/8/10 (0.62/0.31/0.39)
Liner: Floor/Sidewall/Frontwall	mm (in)		16/8/8 (0.62/0.31/0.31)
Body Volume	m ³ (yd ³)	35.2 (46.1)	34.7 (45.4)
Target Gross Machine Weight	kg (lb)	99 300 (218,920)	99 300 (218,920)
Empty Chassis Weight	kg (lb)	30 219 (66,622)	30 219 (66,622)
Body System Weight	kg (lb)	9400 (20,724)	13 474 (29,705)
Empty Machine Weight	kg (lb)	39 619 (87,345)	43 693 (96,327)
Fuel Tank Size	L (gal)	700 (185)	700 (185)
Fuel Tank – 100% Fill	kg (lb)	573 (1,263)	573 (1,263)
Empty Machine Operating Weight	kg (lb)	40 192 (88,608)	44 266 (97,590)
Target Payload*	kg (lb)	59 108 (130,311)	55 034 (121,330)
	tonnes (tons)	59.1 (65.2)	55.0 (60.7)
Maximum Payload (110% of Target)*	kg (lb)	65 019 (143,342)	60 537 (133,463)
	tonnes (tons)	65.0 (71.7)	60.5 (66.7)
Not to Exceed Payload (120% of Target)*	kg (lb)	70 930 (156,374)	66 041 (145,596)
	tonnes (tons)	70.9 (78.2)	66.0 (72.8)

Sideboards (Optional)

Height		Volume Add		Weight		Maximum (110%) Material Density**	
155 mm	6 in	2.9 m ³	3.8 yd ³	430 kg	948 lb	1885 kg	3,178 lb

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

**Based on Quarry Body at 90% Body Volume Fill.

Note: Empty Chassis Weight is figured without fuel.

Payload Calculation: Definitions

Target Payload = Target Gross Machine Weight less Empty Machine Operating Weight

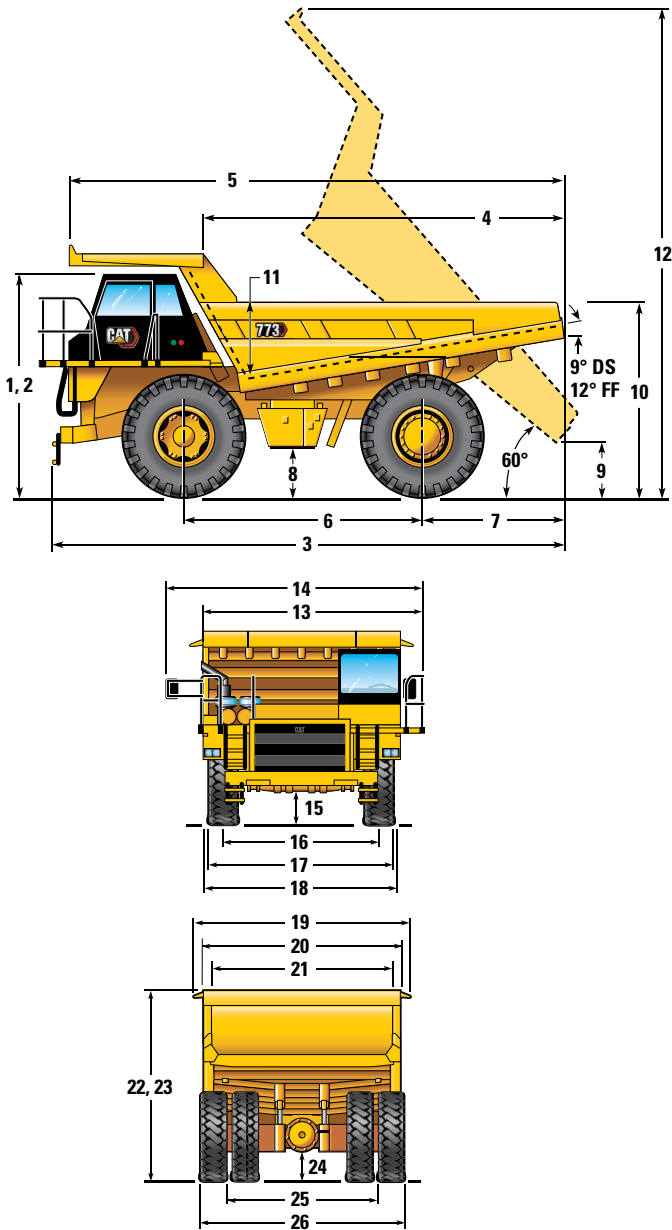
Empty Machine Operating Weight = Empty Chassis Weight + Body System Weight + Fuel

Maximum Payload = Target Payload × 1.10 (110%)

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Dimensions

All dimensions are approximate.



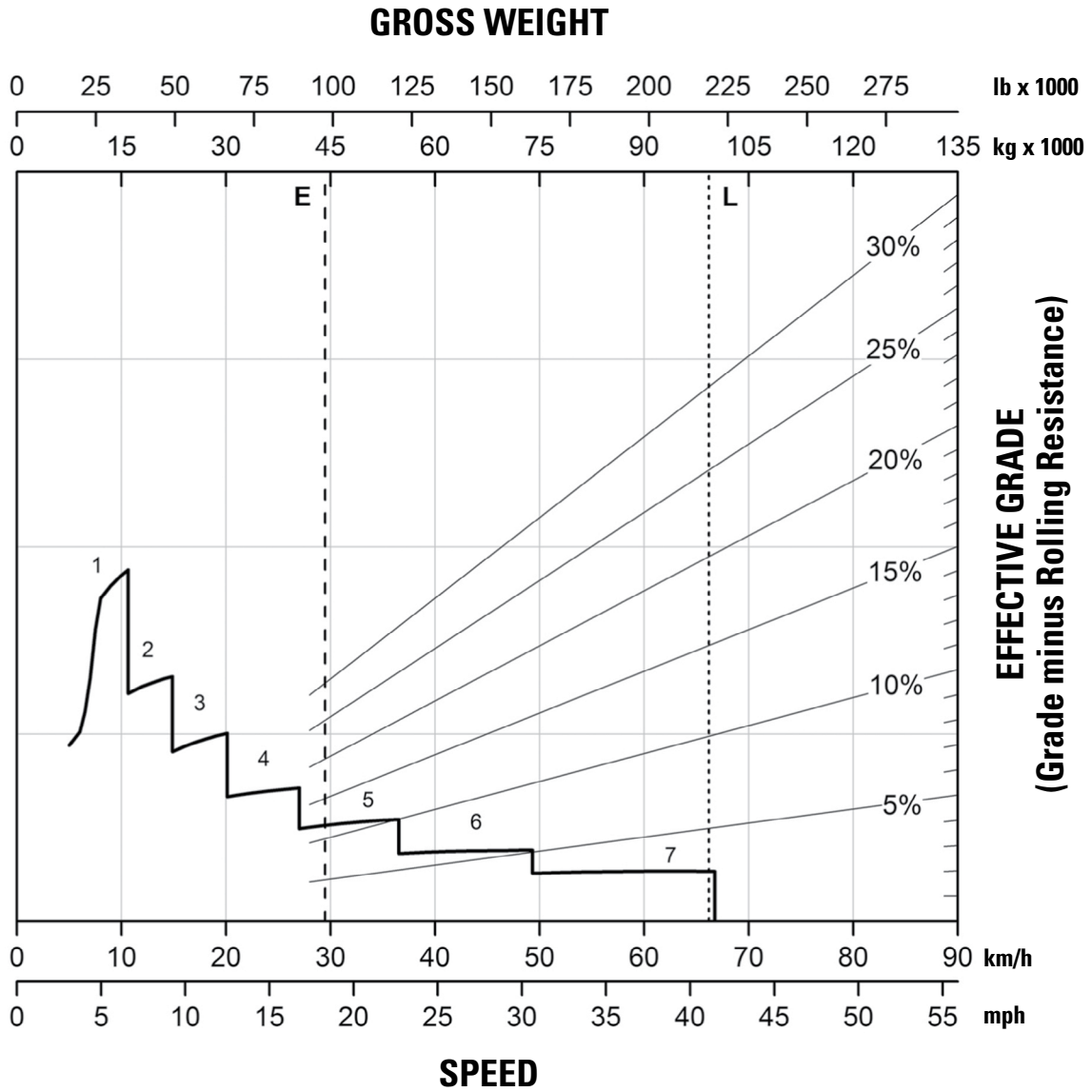
	Dual Slope Floor	
1	Height, Top of ROPS, Empty	4000 mm 13 ft 2 in
2	Height, Top of ROPS, Loaded	3900 mm 12 ft 10 in
3	Length, Overall	9120 mm 29 ft 11 in
4	Length, Inside Body	6400 mm 21 ft 0 in
5	Length, Overall Body	8535 mm 28 ft 0 in
6	Wheelbase	4191 mm 13 ft 9 in
7	Rear Axle to Tail	2782 mm 9 ft 2 in
8	Dump Clearance, Loaded	566 mm 1 ft 10 in
9	Dump Clearance, Empty	676 mm 2 ft 3 in
10	Height, Loading, Empty	3773 mm 12 ft 5 in
11	Depth, Inside Body, Maximum	1805 mm 5 ft 11 in
12	Height Overall, Body Raised	8787 mm 28 ft 10 in
13	Width, Left Railing to Right Side Body	4316 mm 14 ft 2 in
14	Width, Operating	5076 mm 16 ft 10 in
	Width, Operating (with extended catwalk)	5539 mm 18 ft 2 in
15	Engine Guard Clearance	667 mm 2 ft 2 in
16	Width, Front Tire Center Line	3275 mm 10 ft 9 in
17	Width, Outside Front Tires	3966 mm 13 ft 0 in
18	Width, Cab	4040 mm 13 ft 5 in
19	Width, Overall Canopy	4398 mm 14 ft 5 in
20	Width, Outside Body	3910 mm 12 ft 10 in
21	Width, Inside Body	3658 mm 12 ft 0 in
22	Height, Front Canopy, Empty	4393 mm 14 ft 5 in
23	Height, Front Canopy, Loaded	4350 mm 14 ft 4 in
24	Rear Axle Clearance	591 mm 1 ft 11 in
25	Width, Rear Dual Tire Center Line	2927 mm 9 ft 7 in
26	Width, Overall Tire	4457 mm 14 ft 8 in

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Retarding – Continuous Grade Length

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.



CONTINUOUS GRADE LENGTH

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

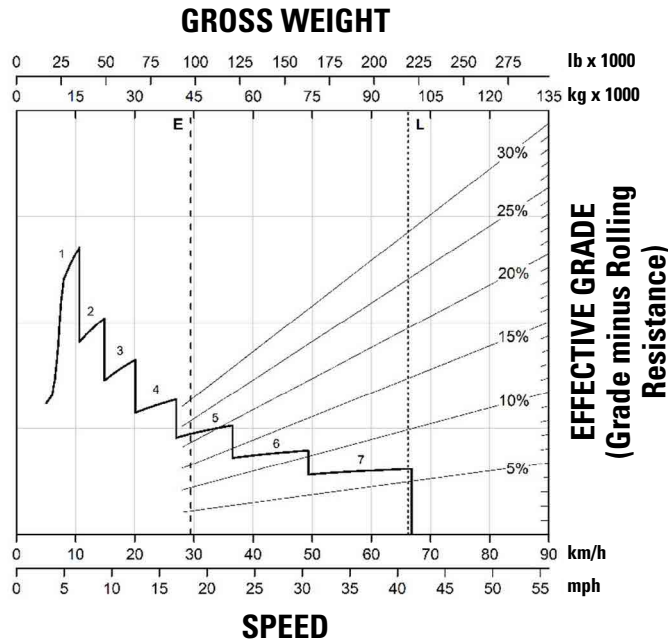
- E — Empty 40 192 kg (88,608 lb)
- L — Target Gross Machine Weight (TGMW) – 99 300 kg (218,920 lb)

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Retarding – Grade Length – 450 m (1,500 ft)

E — Empty 40 192 kg (88,608 lb)
 L — Target Gross Machine Weight (TGMW) – 99 300 kg (218,920 lb)

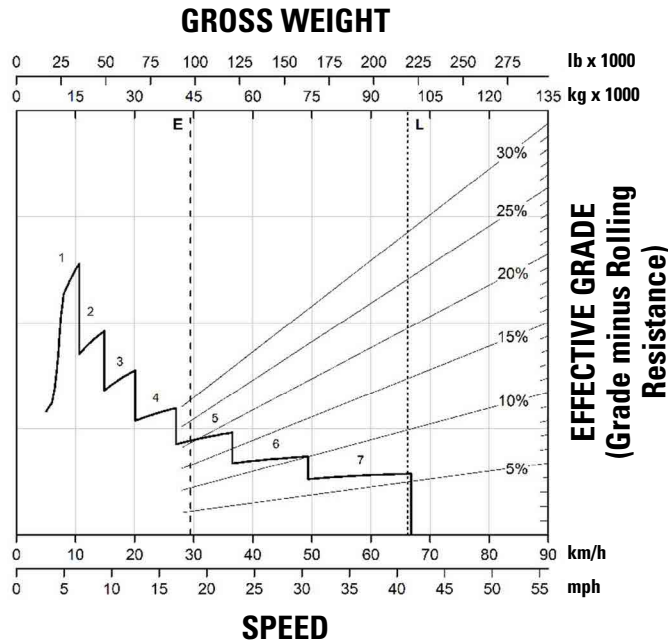
- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear



Retarding – Grade Length – 600 m (2,000 ft)

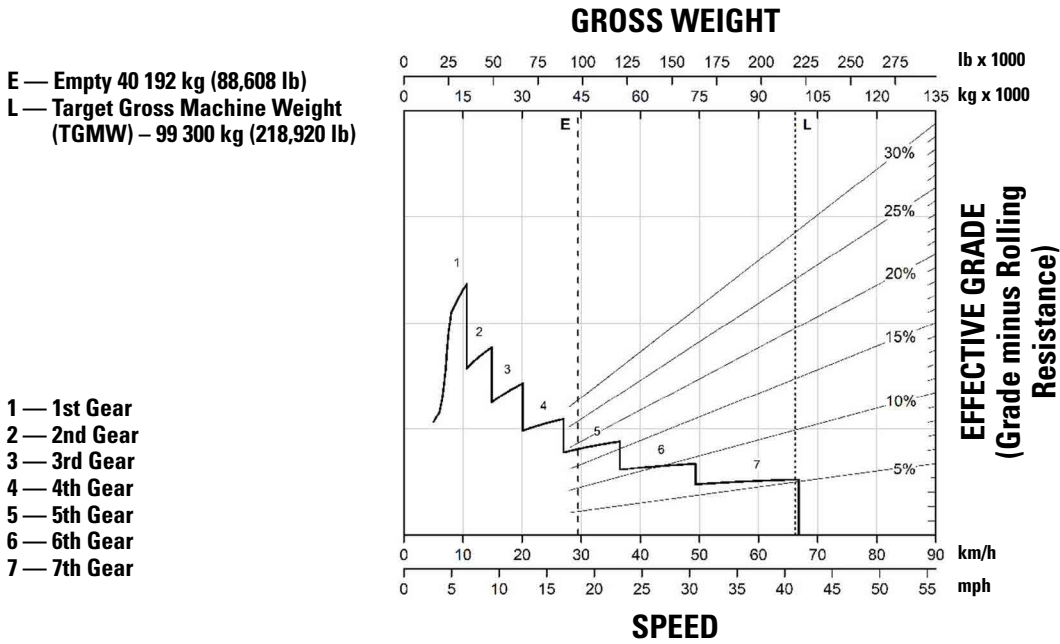
E — Empty 40 192 kg (88,608 lb)
 L — Target Gross Machine Weight (TGMW) – 99 300 kg (218,920 lb)

- 1 — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

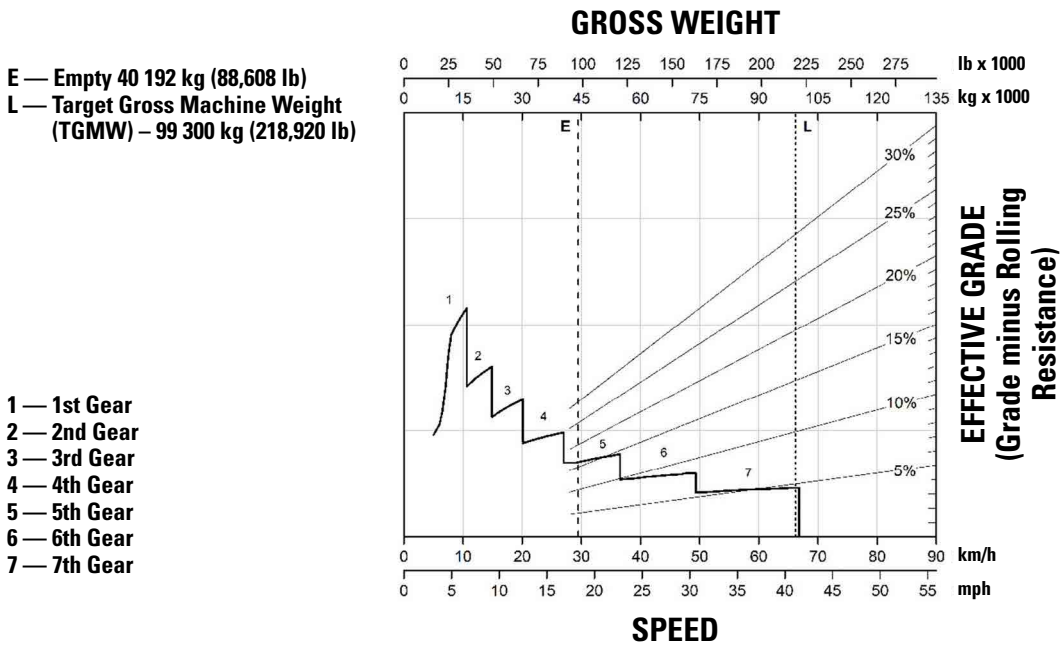


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Retarding – Grade Length – 900 m (3,000 ft)



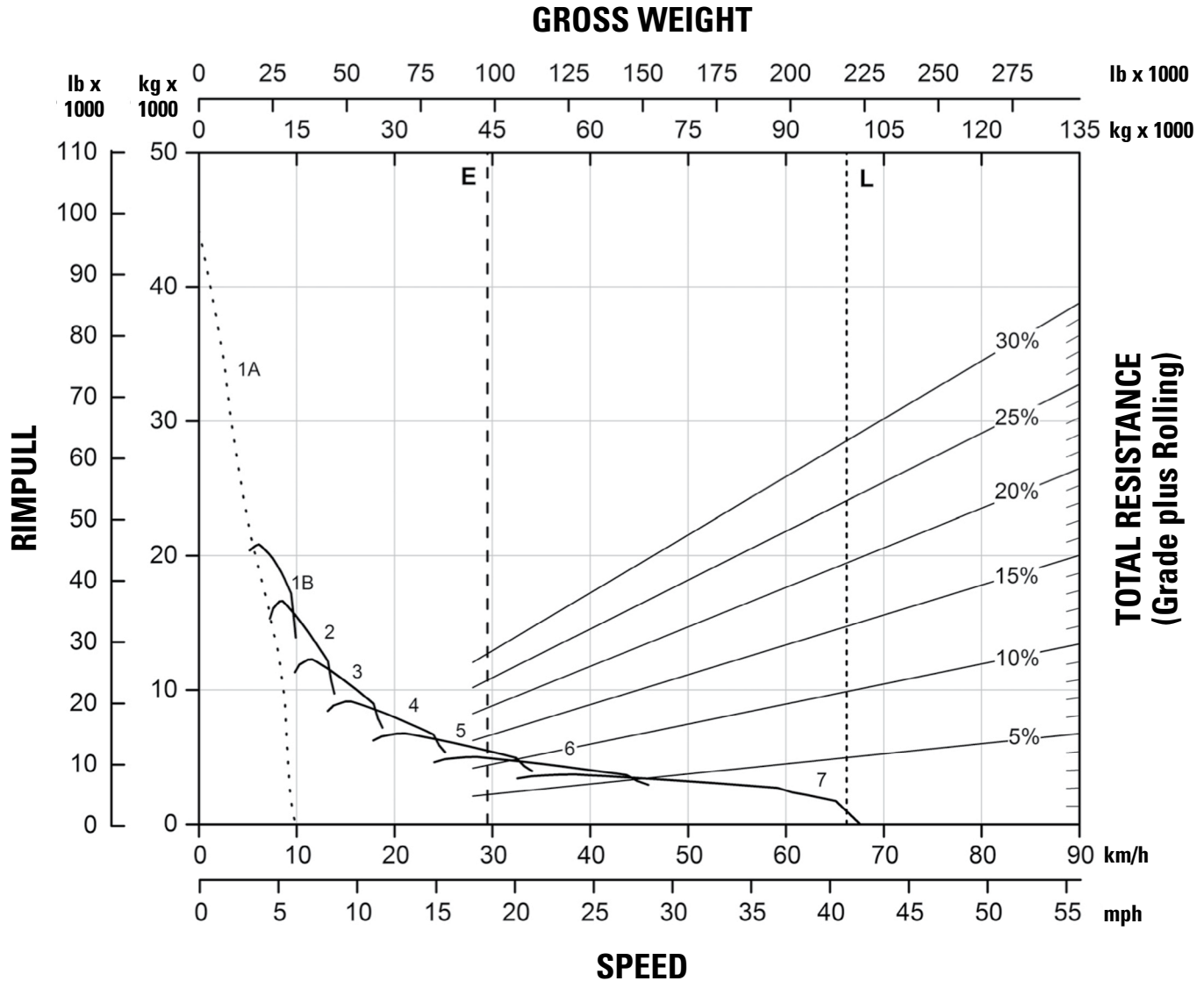
Retarding – Grade Length – 1500 m (5,000 ft)



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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.



- 1A — 1st Gear (Torque Converter)
- 1B — 1st Gear
- 2 — 2nd Gear
- 3 — 3rd Gear
- 4 — 4th Gear
- 5 — 5th Gear
- 6 — 6th Gear
- 7 — 7th Gear

- E — Empty 40 192 kg (88,608 lb)
- L — Target Gross Machine Weight (TGMW) – 99 300 kg (218,920 lb)

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Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
POWER TRAIN			OPERATOR ENVIRONMENT (CONTINUED)		
Cat® 3412E HEUI™ engine: 12-cylinder diesel, air-to-air aftercooler (ATAAC), hydraulic electronic unit injection, air filter with precleaner (2), automatic cold mode idle control, turbocharger (2)	✓		Left side power window	✓	
Extended life coolant to -35° C (-30° F)	✓		Load counter, automatic: Advisor display	✓	
Braking system: oil-cooled – multiple disc (rear), parking/secondary, caliper disc (front), manual retarder (utilizes rear oil-cooled, multiple disc brakes), brake release motor (towing)	✓		Mirrors, left and right	✓	
Auto retarder control (ARC)		✓	Right side access door	✓	
Traction Control System (TCS)		✓	ROPS cab, insulated/sound suppressed	✓	
IBC (ARC &TCS)		✓	Seat, Cat Comfort, full air suspension and retractable four-point seat belt with shoulder harness	✓	
Transmission: 7-speed automatic power shift with ICM control, body upshift inhibitor, controlled throttle shifting, directional shift management, downshift inhibitor, neutral coast inhibitor, neutral start switch, programmable top gear/speed selection, reverse neutralizer during dumping, reverse shift inhibitor	✓		Seat, trainer with lap belt	✓	
ELECTRICAL			Tachometer	✓	
Alarm, backup	✓		Throttle lock	✓	
Alternator, 115 ampere	✓		Tinted, laminated glass	✓	
Auxiliary jump start receptacle	✓		Transmission gear indicator	✓	
Batteries, maintenance-free, 12V (2), 190 amp-hour	✓		Transmission oil temperature gauge	✓	
Electrical system, 24V	✓		TECHNOLOGY PRODUCTS		
Lighting system: backup light (halogen), directional signals/hazard warning (front and rear LED), headlights – (LED) with dimmer, hazard lights (LED), stop/tail lights (LED)	✓		Product Link™	✓	
OPERATOR ENVIRONMENT			Vital Information Management System (VIMS™)		✓
Air filter service indicator	✓		Truck Payload Management System (TPMS)		✓
Air system pressure gauge	✓		OTHER		
Ashtray and cigarette lighter	✓		Airline dryer	✓	
Audiovisual seat belt reminder	✓		Automatic lubrication system		✓
Brake oil temperature gauge	✓		Body down indicator	✓	
Camera System	✓		Body liner		✓
Coat hook, cup holder	✓		Body mounting group	✓	
Coolant temperature gauge	✓		Body safety pin (secures body in up position)	✓	
Diagnostic connection port	✓		Body sideboards		✓
Engine overspeed indicator	✓		Center-mounted rims	✓	
Entertainment radio ready: speakers, antenna, wiring harness	✓		Cluster/grouped lubrication system		✓
Fog lamp		✓	Cold weather package		✓
Heated mirrors		✓	Driveline guards, operator safety vandalism protection lock	✓	
Hoist lever	✓		Engine crankcase guards	✓	
Hour meter	✓		Exhaust Muffler		✓
HVAC	✓		Fast fluid fill system		✓
			Fire extinguisher		✓
			Fuel system, Fast fill		✓
			Ground level battery disconnect	✓	
			Ground level machine shutdown	✓	
			Ground level grease fittings	✓	
			Guard, Turbocharger		✓
			Hydro pneumatic suspension at front and rear	✓	
			Oil change system – high speed		✓
			Parts manual – digital (QR)	✓	
			Reservoirs: transmission, steering, brake – converter, hoist	✓	
			Rock ejectors	✓	
			Spare rim		✓
			Supplemental steering, automatic	✓	
			Wheel Chocks		✓

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

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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AEXQ2669-02 (8-2023)
Build number: 05C
(Afr-ME, CIS, Asia Pacific,
SE Asia)

