

775

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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775 Off-Highway Truck Specifications

Engine – U.S. EPA Tier 4 Final/EU Stage V

Engine Model	Cat® C27	
Rated Speed	1,800 rpm	
Gross Power – SAE J1995	615 kW	825 hp
Net Power – SAE J1349	572 kW	768 hp
Net Power – ISO 9249	572 kW	768 hp
Net Power – 80/1269/EEC	572 kW	768 hp
Engine Power – ISO 14396	605 kW	812 hp
Net Torque Speed	1,200 rpm	
Net Torque	4269 N·m	3,148 lb-ft
Net Torque Rise	40%	
Bore	137 mm	5.4 in
Stroke	152 mm	6.0 in
Displacement	27 L	1,648 in^3

- Power rating applies at 1,800 rpm when tested under the specified condition for the specified standard.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan at minimum speed, air intake system, exhaust system, and alternator.
- Advertised power is tested per the specified standard in effect at the time of manufacture.
- No engine derating required up to 3048 m (10,000 ft).
- Meets U.S. EPA Tier 4 Final and EU Stage V emission standards.

Engine – U.S. EPA Tier 2 Equivalent

Engine Model	Cat C27	
Rated Speed	2,000 rpm	
Gross Power – SAE J1995	615 kW	825 hp
Net Power – SAE J1349	584 kW	783 hp
Net Power – ISO 9249	584 kW	783 hp
Net Power – 80/1269/EEC	584 kW	783 hp
Engine Power – ISO 14396	607 kW	813 hp
Net Torque Speed	1,300 rpm	
Net Torque	3896 N·m	2,874 lb-ft
Net Torque Rise	40%	
Bore	137 mm	5.4 in
Stroke	152 mm	6.0 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.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan at minimum speed, air intake system, exhaust system, and alternator.
- Advertised power is tested per the specified standard in effect at the time of manufacture.
- No engine derating required up to 3810 m (12,500 ft).
- Equivalent to U.S. EPA Tier 2.

Transmission – Tier 4 Final/Stage V

Forward 1	10.7 km/h	6.6 mph
Forward 2	14.9 km/h	9.3 mph
Forward 3	20.2 km/h	12.6 mph
Forward 4	27.1 km/h	16.9 mph
Forward 5	36.7 km/h	22.8 mph
Forward 6	49.5 km/h	30.8 mph
Forward 7	67.0 km/h	41.6 mph
Reverse	14.0 km/h	8.7 mph

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

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	37.1 km/h	23.0 mph
Forward 6	50.0 km/h	31.1 mph
Forward 7	67.7 km/h	42.0 mph
Forward 7 (Vietnam)*	59 km/h	36.6 mph
Reverse	14.2 km/h	8.8 mph

- Maximum travel speeds with standard 24.00R35 (E4) tires.
  *Maximum travel speed limited to 59 km/h for Vietnam arrangement.

Final Drives

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

Brakes

Brake surface OD – Front	655 mm	25.7 in
Brake Surface – Rear	61 269 cm^2	9,497 in^2
Brake Standards	ISO 3450:2011	

Body Hoists – Tier 4 Final/Stage V

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	12.5 seconds	

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	12.5 seconds	

Capacity – Dual Slope – 100% Fill Factor

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

- Contact your local Cat dealer for body recommendation.

*ISO 6483:1980

Capacity – Flat Floor – 100% Fill Factor

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

- Contact your local Cat dealer for body recommendation.

*ISO 6483:1980

Capacity – Quarry – 100% Fill Factor

Struck	32.0 m^3	41.9 yd^3
Heaped (SAE 2:1)*	41.9 m^3	54.8 yd^3

- Contact your local Cat dealer for body recommendation.

*ISO 6483:1980

Weight Distributions – Approximate

Front Axle – Empty	52%
Front Axle – Loaded	34%
Rear Axle – Empty	48%
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 Performance – Tier 4 Final/Stage V

Operator Sound Level (ISO 6396:2008)	73 dB(A)
Machine Sound Level (ISO 6395:2008)	114 dB(A)

- The operator sound pressure level is measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.
- The machine sound power level is measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.

Sound Performance – Tier 2 Equivalent

Operator Sound Level (ISO 6396:2008)	75.5 dB(A)
Machine Sound Level (ISO 6395:2008)	117.5 dB(A)

- The operator sound pressure level is measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.
- The machine sound power level is measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R1234yf. Refer to the machine labeling for identification of the gas (Global Warming Potential = 0.501). The system contains 1.85 kg (4.1 lb) of refrigerant which has a CO_2 equivalent of 0.001 metric tonnes (0.001 tons).

Steering

Steering Standards	ISO 5010:2019	
Steer Angle	31°	
Turning Diameter – Front	22.0 m	72 ft 2 in
Turning Circle Clearance Diameter	25.0 m	82 ft 0 in

ROPS/FOPS

Rollover Protective Structure (ROPS)/Falling Objects Protective Structure (FOPS) Standards

- ROPS for cab offered by Caterpillar meet ISO 3471:2008 for operator and ISO 13459:2012 for trainer.
- FOPS meet ISO 3449:2005 Level II for operator and ISO 13459:2012 Level II for trainer.

Tires

Standard Tire	24.00R35 (E4)

- Productive capabilities of the 775 truck are such that, under certain job conditions, tons kilometers per hour (TKPH)/tons miles per hour (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	795 L	210.0 gal
Cooling System (Tier 4)	164 L	43.3 gal
Cooling System (Tier 2 Equivalent)	154 L	40.6 gal
Engine Crankcase	90 L	24.0 gal
Differentials and Final Drives	140 L	37.0 gal
Steering Tank	36 L	9.5 gal
Steering System (includes tank)	54 L	14.3 gal
Brake/Hoist Hydraulic Tank	176 L	46.5 gal
Hoist and Brake Hydraulic System	322 L	85.0 gal
Transmission and Converter System (Tier 4)	70 L	18.5 gal
Transmission and Converter System (Tier 2 Equivalent)	61 L	16.1 gal
Front Wheels	3.4 L	1 gal

775 Off-Highway Truck Specifications

Weight/Payload Calculation – Tier 4 Final/Stage V Examples

		Flat Floor							
Machine Weights Based on Configuration		**Without Liner**		**With Liner**		**With Rubber Liner**		**Quarry Body**	
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)**		**25/14/16 (0.98/0.55/0.62)**	
Liner: Floor/Sidewall/Frontwall	mm (in)			**16/8/10 (0.62/0.31/0.39)**		**102/8/8 (4.0/0.31/0.31)**			
Body Capacity	m^3 (yd^3)	42.2	(55.2)	41.6	(54.4)	39.8	(52.0)	41.9	(54.9)
Target Gross Machine Weight	kg (lb)	111 811	(246,502)	111 811	(246,502)	111 811	(246,502)	111 811	(246,502)
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	(35,021)	16 732	(36,888)	13 827	(30,483)
Empty Machine Weight	kg (lb)	47 468	(104,649)	51 593	(113,743)	52 440	(115,611)	49 535	(109,206)
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 Machine Operating Weight	kg (lb)	48 137	(106,123)	52 262	(115,217)	53 109	(117,085)	50 204	(110,680)
Payload									
Target Payload (100%)*	kg (lb)	63 674	(140,379)	59 549	(131,284)	58 702	(129,417)	61 607	(135,822)
	tonnes (tons)	63.7	(70.2)	59.5	(65.6)	58.7	(64.7)	61.6	(67.9)
Maximum Payload (110% of Target)*	kg (lb)	70 041	(154,416)	65 504	(144,413)	64 572	(142,359)	67 768	(149,404)
	tonnes (tons)	70.0	(77.2)	65.5	(72.2)	64.6	(71.2)	67.8	(74.7)
Not to Exceed Payload (120% of Target)*	kg (lb)	76 409	(168,454)	71 459	(157,541)	70 442	(155,301)	73 928	(162,986)
	tonnes (tons)	76.4	(84.2)	71.5	(78.8)	70.4	(77.7)	73.9	(81.5)

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

Weight/Payload Calculation – Tier 4 Final/Stage V Examples

Dual Slope					
Machine Weights Based on Configuration		**Without Liner**		**With 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)**	
Liner: Floor/Sidewall/Frontwall	mm (in)			**16/8/10 (0.62/0.31/0.39)**	
Body Capacity	m^3 (yd^3)	42.2	(55.2)	41.7	(54.5)
Target Gross Machine Weight	kg (lb)	111 811	(246,502)	111 811	(246,502)
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)
Fuel Tank Size	L (gal)	795	(210)	795	(210)
Fuel Tank – 100% Fill	kg (lb)	669	(1,474)	669	(1,474)
Empty Machine Operating Weight	kg (lb)	47 843	(105,475)	51 859	(114,329)
Payload					
Target Payload (100%)*	kg (lb)	63 968	(141,027)	59 952	(132,173)
	tonnes (tons)	64.0	(70.5)	60.0	(66.1)
Maximum Payload (110% of Target)*	kg (lb)	70 365	(155,129)	65 947	(145,390)
	tonnes (tons)	70.4	(77.6)	65.9	(72.7)
Not to Exceed Payload (120% of Target)*	kg (lb)	76 762	(169,232)	71 942	(158,607)
	tonnes (tons)	76.8	(84.6)	71.9	(79.3)

*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)
155	(6.0)	2.9	(3.8)	430	(948)	1681	(3706)

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

Empty Chassis Weight is figured without fuel.

Payload Calculation: Definitions
Empty Machine Weight = Empty Chassis weight + Body system weight + Fuel tank, 100% Fill
Target Payload = Target Gross Machine Weight less Empty Operating Weight
Maximum Payload = Target Payload × 1.10 (110%)

Weight/Payload Calculation – Tier 2 Equivalent Examples

		Flat Floor							
Machine Weights Based on Configuration		**Without Liner**		**With Liner**		**With Rubber Liner**		**Quarry Body**	
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)**		**25/14/16 (0.98/0.55/0.62)**	
Liner: Floor/Sidewall/Frontwall	mm (in)			**16/8/10 (0.62/0.31/0.39)**		**102/8/8 (4.0/0.31/0.31)**			
Body Capacity	m^3 (yd^3)	42.2	(55.2)	41.6	(54.4)	39.8	(52.0)	41.9	(54.9)
Target Gross Machine Weight	kg (lb)	111 811	(246,502)	111 811	(246,502)	111 811	(246,502)	111 811	(246,502)
Empty Chassis Weight	kg (lb)	35 553	(78,380)	35 553	(78,380)	35 553	(78,380)	35 553	(78,380)
Body System Weight	kg (lb)	11 760	(25,926)	15 885	(35,021)	16 732	(36,888)	13 827	(30,483)
Empty Machine Weight	kg (lb)	47 313	(104,307)	51 438	(113,401)	52 285	(115,268)	49 380	(108,864)
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 Machine Operating Weight	kg (lb)	47 982	(105,782)	52 107	(114,876)	52 954	(116,743)	50 049	(110,339)
Payload									
Target Payload (100%)*	kg (lb)	63 829	(140,718)	59 704	(131,624)	58 857	(129,757)	61 762	(136,161)
	tonnes (tons)	63.8	(70.3)	59.7	(65.8)	58.9	(64.9)	61.8	(68.1)
Maximum Payload (110% of Target)*	kg (lb)	70 212	(154,790)	65 674	(144,786)	64 743	(142,733)	67 938	(149,777)
	tonnes (tons)	70.2	(77.4)	65.7	(72.4)	64.7	(71.4)	67.9	(74.8)
Not to Exceed Payload (120% of Target)*	kg (lb)	76 595	(168,863)	71 645	(157,950)	70 628	(155,708)	74 114	(163,393)
	tonnes (tons)	76.6	(84.4)	71.6	(78.9)	70.6	(77.8)	74.1	(81.7)

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

Weight/Payload Calculation – Tier 2 Equivalent Examples

Dual Slope					
Machine Weights Based on Configuration		**Without Liner**		**With 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)**	
Liner: Floor/Sidewall/Frontwall	mm (in)			**16/8/10 (0.62/0.31/0.39)**	
Body Capacity	m^3 (yd^3)	42.2	(55.2)	41.7	(54.5)
Target Gross Machine Weight	kg (lb)	111 811	(246,502)	111 811	(246,502)
Empty Chassis Weight	kg (lb)	35 553	(78,380)	35 553	(78,380)
Body System Weight	kg (lb)	11 466	(25,278)	15 482	(34,132)
Empty Machine Weight	kg (lb)	47 019	(103,659)	51 035	(112,512)
Fuel Tank Size	L (gal)	795	(210)	795	(210)
Fuel Tank – 100% Fill	kg (lb)	669	(1,474)	669	(1,474)
Empty Machine Operating Weight	kg (lb)	47 688	(105,134)	51 704	(113,987)
Payload					
Target Payload (100%)*	kg (lb)	64 123	(141,367)	60 107	(132,513)
	tonnes (tons)	64.1	(70.7)	60.1	(66.2)
Maximum Payload (110% of Target)*	kg (lb)	70 535	(155,503)	66 118	(145,765)
	tonnes (tons)	70.5	(77.7)	66.1	(72.9)
Not to Exceed Payload (120% of Target)*	kg (lb)	76 948	(169,641)	72 128	(159,015)
	tonnes (tons)	76.9	(84.8)	72.1	(79.5)

*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)
155	(6)	2.9	(3.8)	430	(948)	1681	(3706)

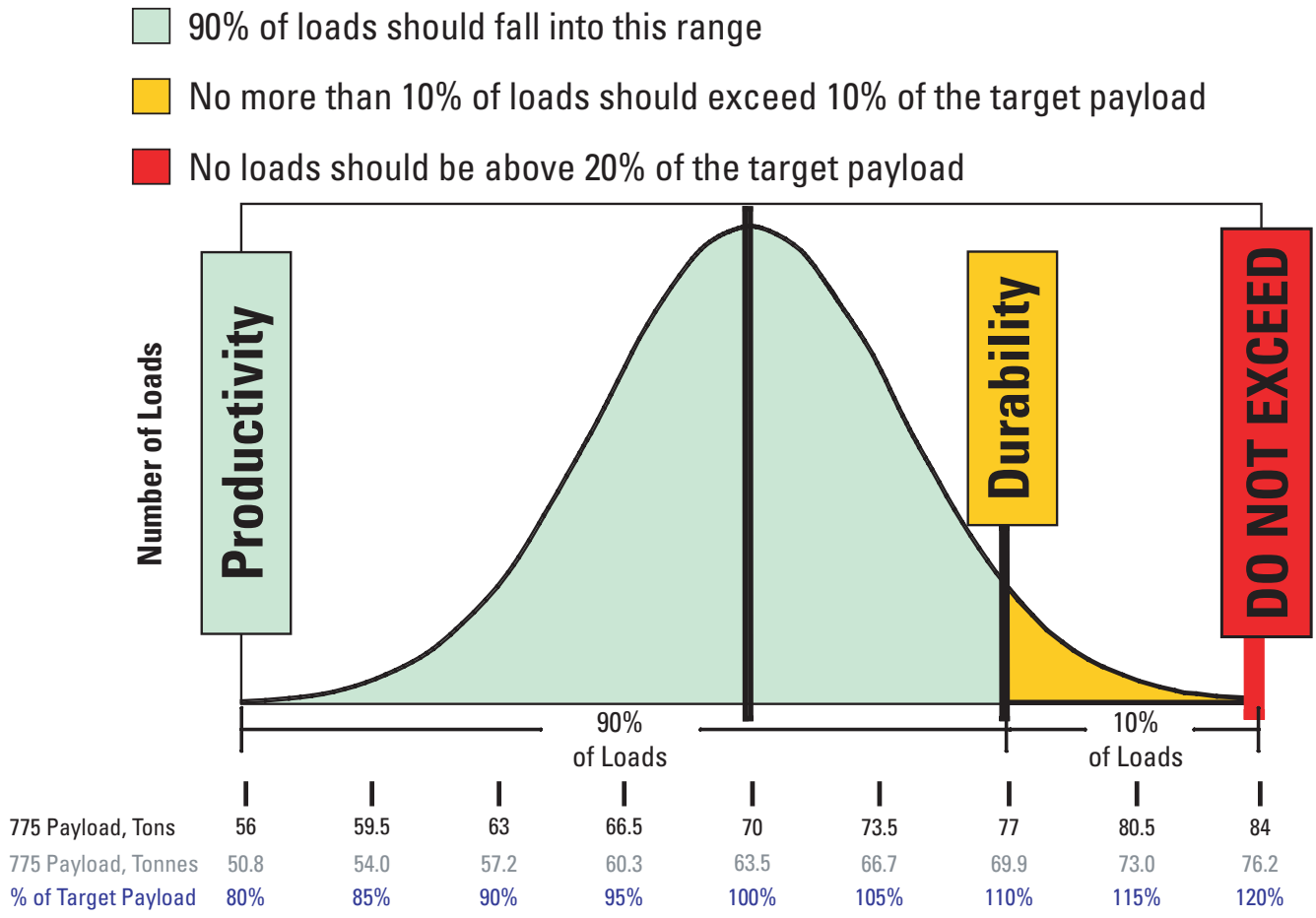
**Based on Quarry Body at 90% Body Volume Fill.

Empty Chassis Weight is figured without fuel.

Payload Calculation: Definitions
Empty Machine Weight = Empty Chassis weight + Body system weight + Fuel tank, 100% fill
Target Payload = Target Gross Machine Weight less Empty Operating Weight
Maximum Payload = Target Payload × 1.10 (110%)

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

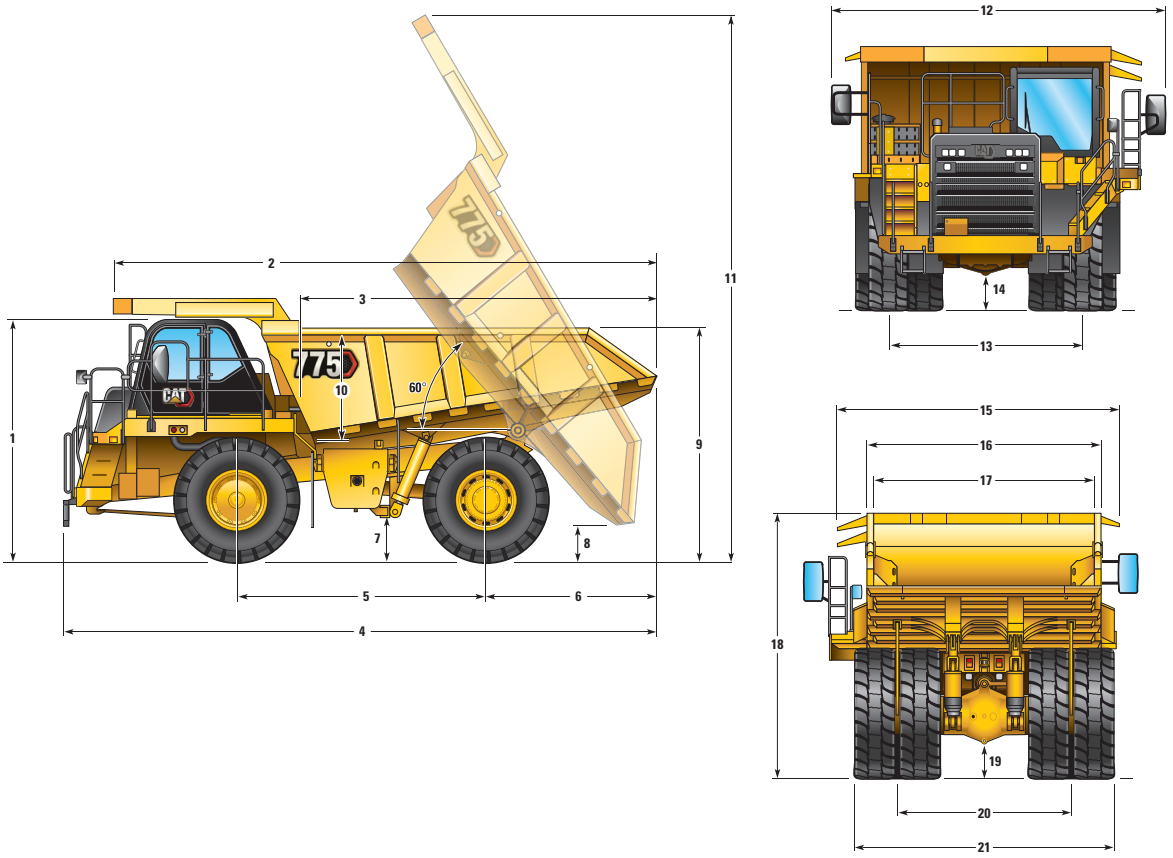
The ideal hauling strategy that maximizes machine and machine component life is to *keep the* **mean** *of all payloads* **at or below the machine's rated target payload**.



775 Payload, Tons	56	59.5	63	66.5	70	73.5	77	80.5	84
775 Payload, Tonnes	50.8	54.0	57.2	60.3	63.5	66.7	69.9	73.0	76.2
% of Target Payload	80%	85%	90%	95%	100%	105%	110%	115%	120%

Dimensions

All dimensions are approximate.

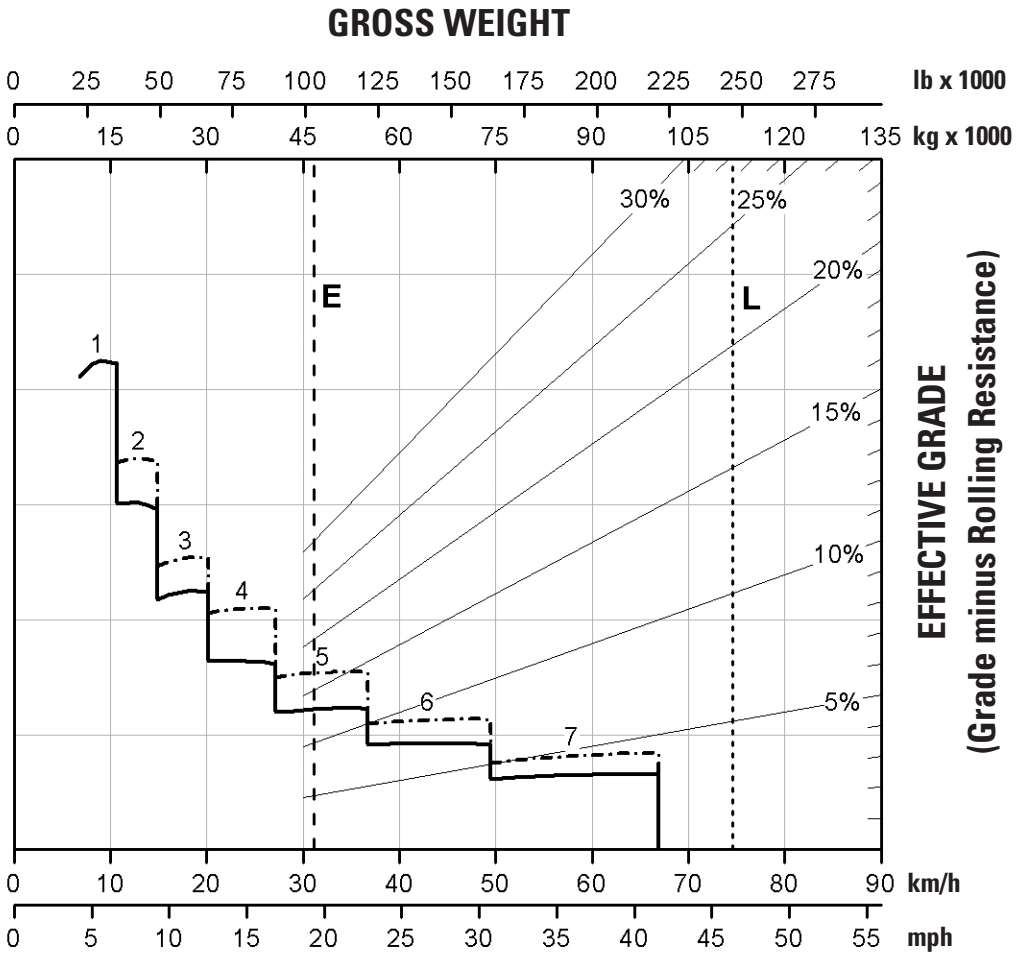


		Dual Slope		Flat Floor		Quarry	
1	Height to Top of ROPS	4108 mm	13.48 ft	4108 mm	13.48 ft	4108 mm	13.48 ft
2	Overall Body Length	9215 mm	30.23 ft	9293 mm	30.49 ft	9295 mm	30.50 ft
3	Inside Body Length	6100 mm	20.01 ft	6100 mm	20.01 ft	6100 mm	20.01 ft
4	Overall Length	10 073 mm	33.05 ft	10 151 mm	33.30 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

Retarding Performance – Tier 4 Final/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 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

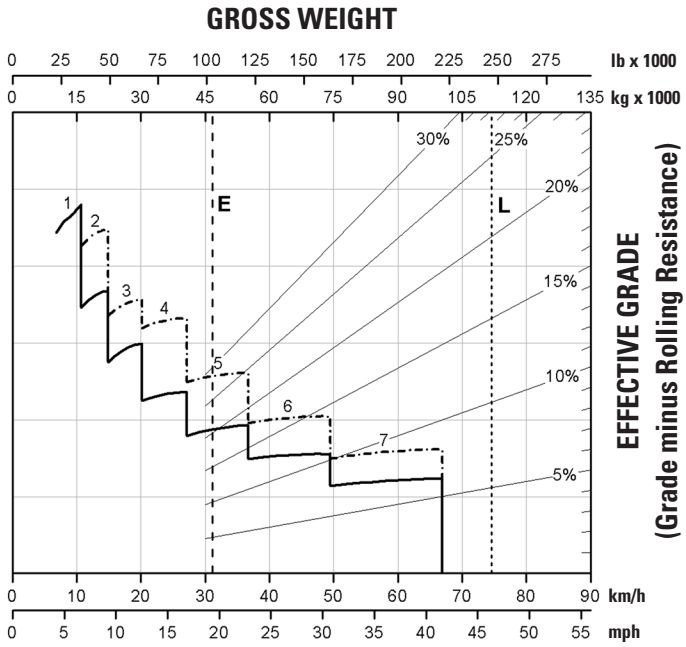
——— with ARC only

·–·–·– ARC and Engine Brake

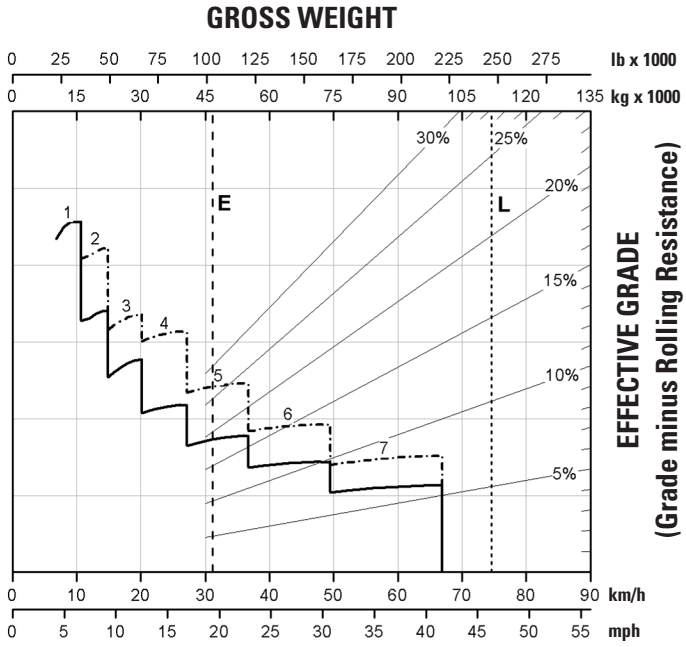
E – Typical Field Empty Weight

L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

Retarding Performance – Tier 4 Final/Stage V



Grade Distance – 450 m (1,500 ft)



Grade Distance – 600 m (2,000 ft)

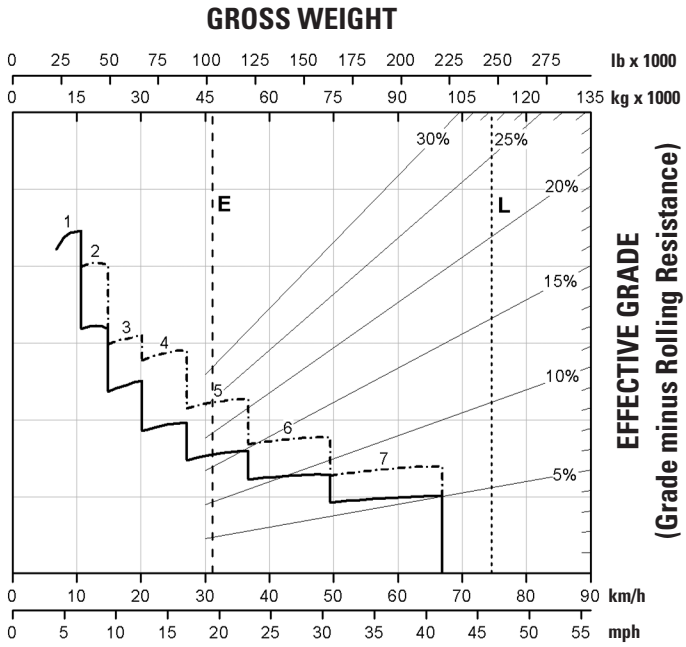
——— with ARC only

- · — · — · ARC and Engine Brake

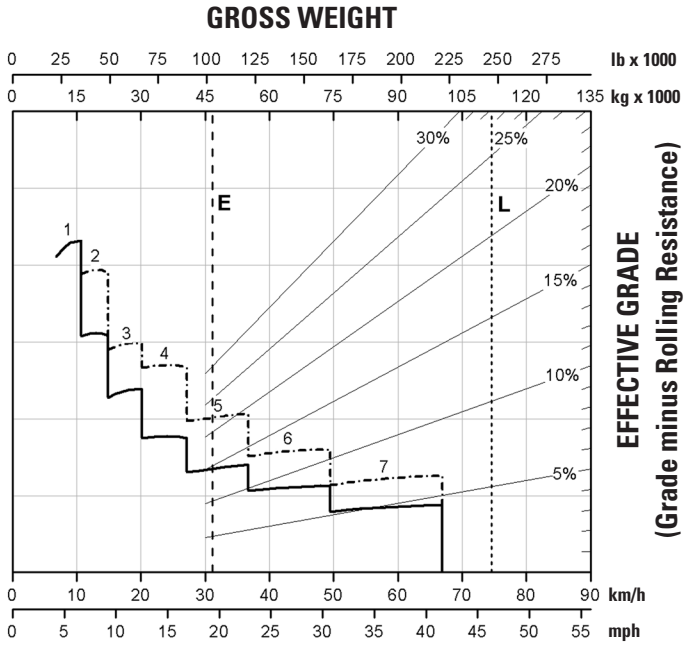
E – Typical Field Empty Weight

L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

Retarding Performance – Tier 4 Final/Stage V



Grade Distance – 900 m (3,000 ft)



Grade Distance – 1500 m (5,000 ft)

——— with ARC only

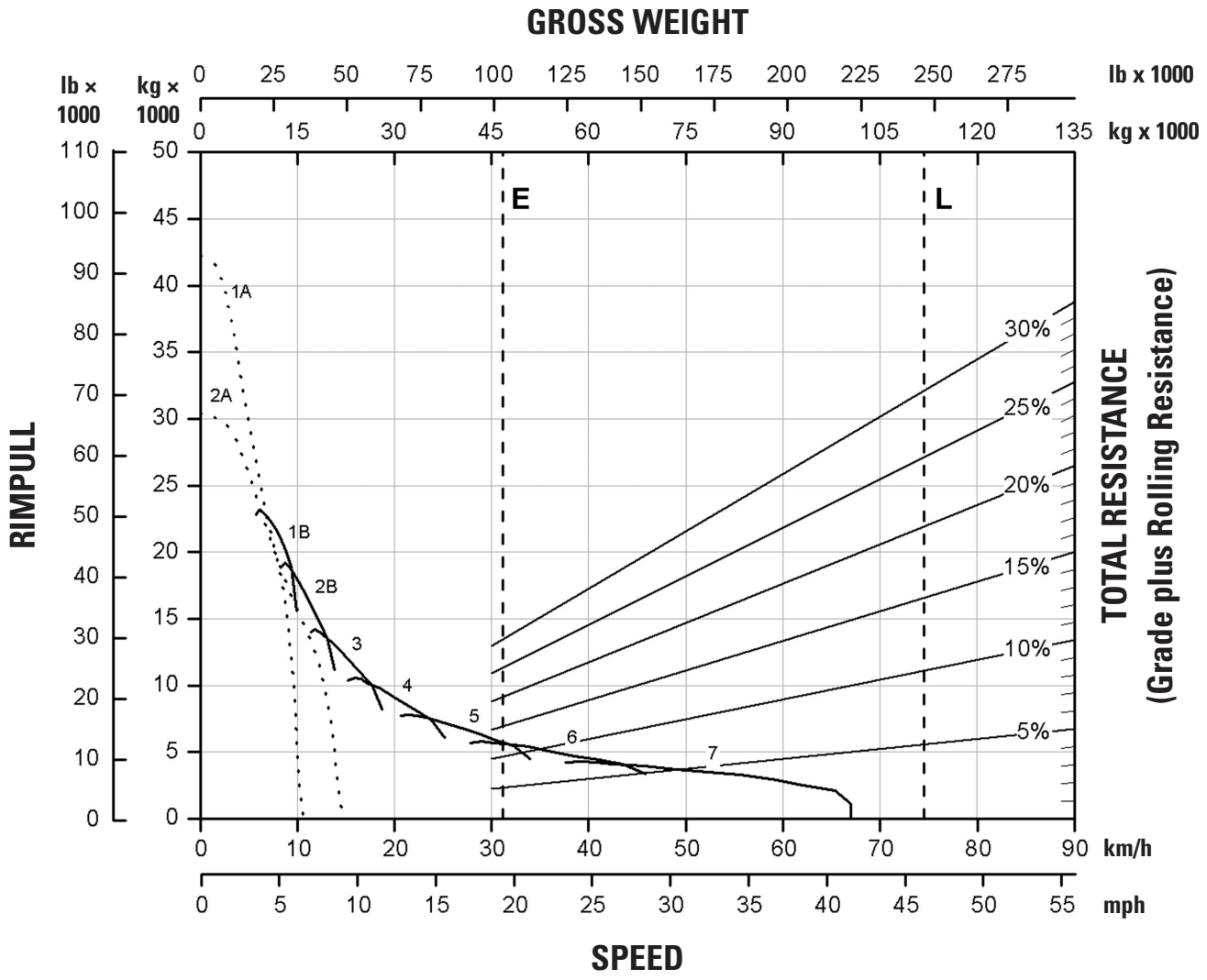
– – – – ARC and Engine Brake

E – Typical Field Empty Weight

L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

Gradeability/Speed/Rimpull – Tier 4 Final/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.



——— with ARC only

- - - - - - ARC and Engine Brake

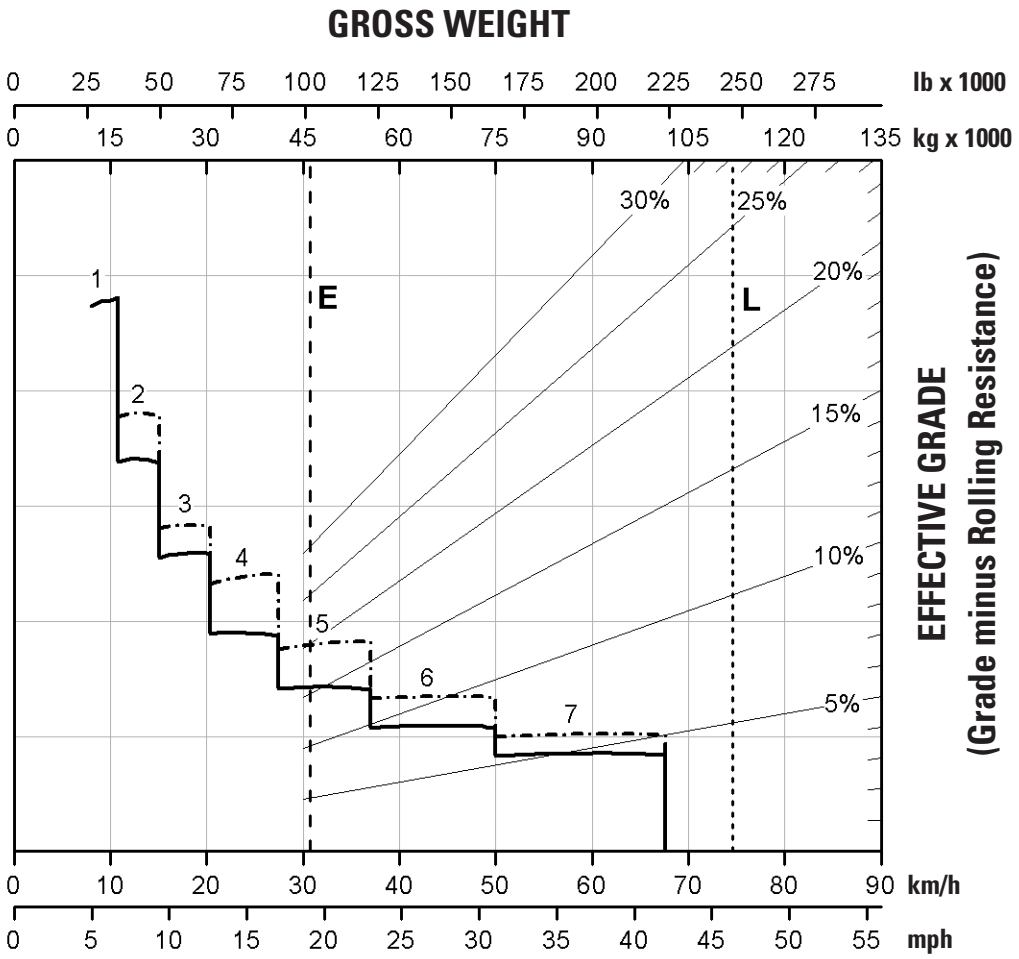
E – Typical Field Empty Weight

L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

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.



Continuous Grade Length

——— with ARC only

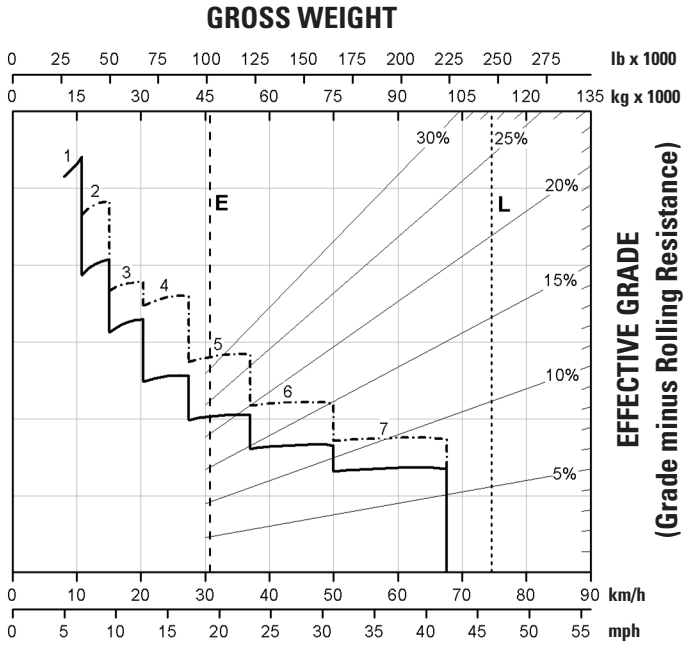
-·-·-·- ARC and Engine Brake

E – Typical Field Empty Weight

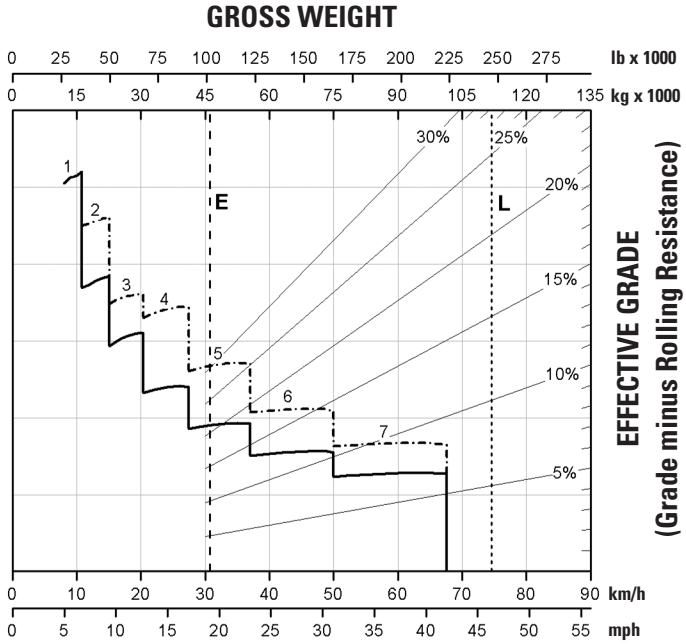
L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

7th gear is limited to 59 kmph for Vietnam market

Retarding Performance – Tier 2 Equivalent



Grade Distance – 450 m (1,500 ft)



Grade Distance – 600 m (2,000 ft)

——— with ARC only

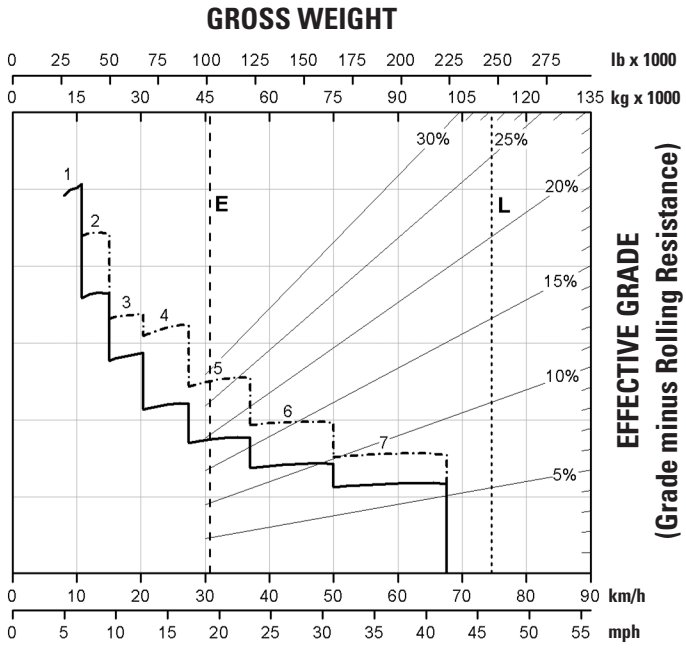
- · — · — · ARC and Engine Brake

E – Typical Field Empty Weight

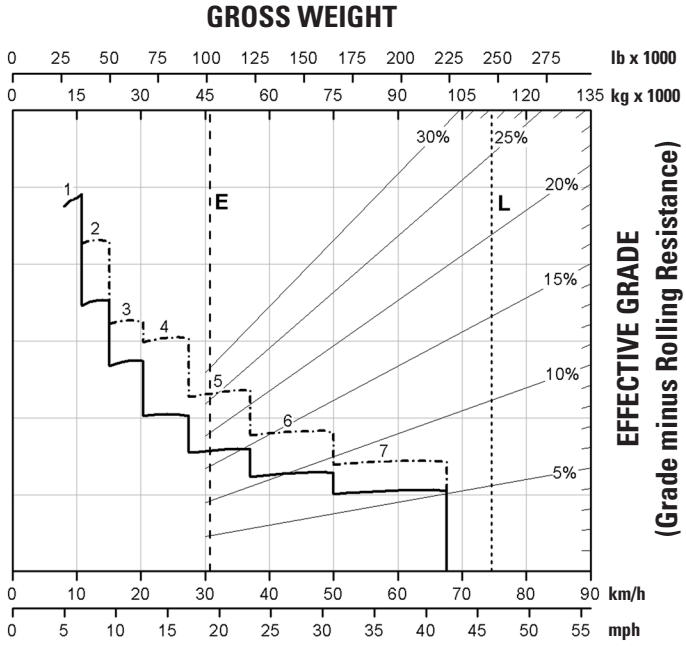
L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

7th gear is limited to 59 kmph for Vietnam market

Retarding Performance – Tier 2 Equivalent



Grade Distance – 900 m (3,000 ft)



Grade Distance – 1500 m (5,000 ft)

——— with ARC only

- · — · — · ARC and Engine Brake

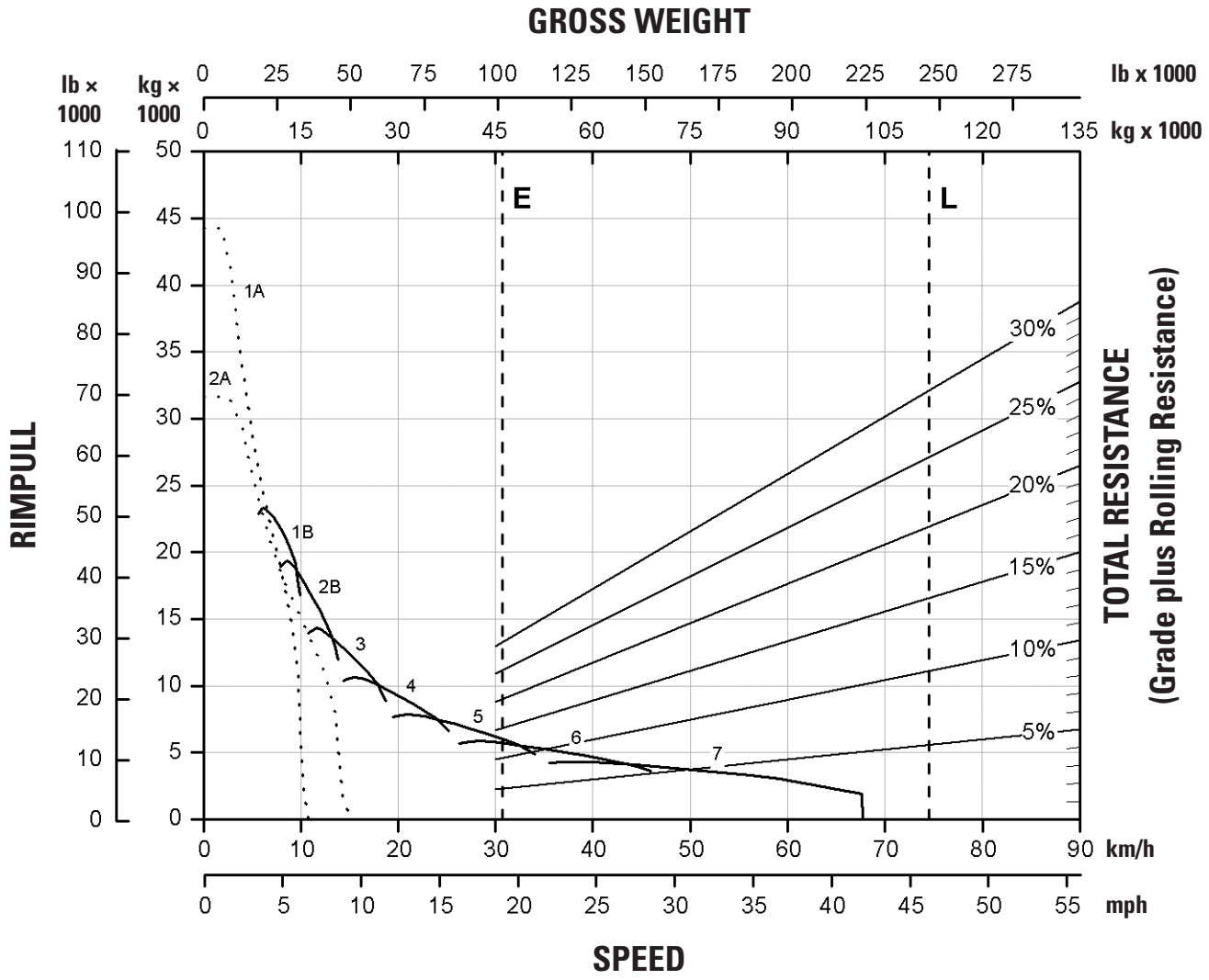
E – Typical Field Empty Weight

L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

7th gear is limited to 59 kmph for Vietnam market

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.



——— with ARC only

- - - - - - ARC and Engine Brake

E – Typical Field Empty Weight

L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

7th gear is limited to 59 kmph for Vietnam market

775 Off-Highway Truck Specifications

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat® dealer for details.

	Standard	Optional
POWERTRAIN		
C27 U.S. EPA Tier 4 Final/EU Stage V or noncertified and U.S. EPA Tier 2 equivalent diesel engine: air filters with precleaner (2), air-to-air aftercooler (ATAAC), electric start, engine idle shutdown, ether starting aid, exhaust muffler, next generation modular radiator (NGMR)	✓	
Braking system: extended life brakes, automatic retarder control (ARC), manual retarder (utilizes rear oil-cooled, multiple disc brakes), brake release motor (towing), dry disc brakes (front), brake disconnect switch (front), oil-cooled multiple disc brakes (rear), brake wear indicator (rear), parking brake, secondary brake, service brake	✓	
Cat® engine brake		✓
NO_X reduction system (NRS), diesel oxidation catalyst (DOC); demand fan; Mechanically Actuated Electronic Unit Injection (MEUI™) -C fuel system (Tier 4 Final/Stage V only)	✓	
Transmission: 7-speed automatic powershift with electronic clutch pressure control (ECPC), advanced productivity electronic control strategy (APECS); automatic neutral idle, autostall, second gear start	✓	
ELECTRICAL		
Alarm, backup	✓	
Alternator, 110 ampere	✓	
Autolube power supply ready	✓	
Batteries, maintenance-free, 12V (2), 1,400 CCA combined	✓	
Electrical system, 25 amp, 24V to 12V converter	✓	
Lighting system: All LED backup lights, directional signals/hazard warning, engine compartment light, headlights with dimmer, operator access courtesy lights, side profile lights, stop/tail lights.	✓	
Service center containing: battery jump start, breakers with spare fuses, lockout switch, ports – electronic technician (ET) and advanced health, service lockout switch (power without engine start)	✓	
OPERATOR ENVIRONMENT		
Air cleaner service indicator, fluid level monitoring, fuel level monitoring, display languages (market based)	✓	
Air conditioning/heat	✓	
Ashtray and cigarette lighter	✓	
Automatic temperature control	✓	

	Standard	Optional
OPERATOR ENVIRONMENT (CONTINUED)		
Cab precleaner		✓
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	✓	
Combined shift and hoist lever	✓	
Horn	✓	
Light: courtesy, dome	✓	
Lights (Halogen)		✓
Power port, 24V and 12V (2)	✓	
Rollover protective structure (ROPS)/ falling objects protective structure (FOPS)	✓	
Seat, Cat Deluxe: full air suspension, heated, cloth, retractable 4-point seat belt with shoulder harness	✓	
Seat Belt Reminder System: Seat belt alert Seat belt inhibit	✓	
Trainer seat, lap belt, with seat belt reminder	✓	
Steering wheel, padded, tilt and telescopic	✓	
Storage compartment	✓	
Sun visor	✓	
Throttle lock	✓	
Visibility package (meets ISO 5006:2017 requirements)		✓
Vision system: front and rear camera	✓	
Window, hinged, right side (emergency exit)	✓	
Window, powered, left side	✓	
Windshield wiper, intermittent, and washer	✓	
TECHNOLOGY PRODUCTS		
Economy modes, standard and adaptive	✓	
Product Link™, cellular or satellite	✓	
Traction control system (TCS)		✓
Cat Advanced Payload		✓
Advanced Health	✓	

Standard and Optional Equipment

Standard and optional equipment may vary. Consult your Cat® dealer for details.

	Standard	Optional
OTHER		
Antifreeze	✓	
Auto lube		✓
Body heat		✓
Body liner		✓
Body sideboards		✓
Body down indicator	✓	
Body safety pin (secures body in up position)	✓	
Center-mounted rims	✓	
Clustered grease fittings	✓	
Cold weather packages		✓
Driveline guards	✓	
Engine crankcase guards	✓	
Extended life coolant to -34° C (-30° F)	✓	
Fan guards	✓	
Fluid fill service center		✓
Fuel tank, 795 L (210 gal)	✓	
Ground-level battery disconnect	✓	

	Standard	Optional
OTHER (CONTINUED)		
Ground-level engine shutdown	✓	
Grouped ground-level filters	✓	
Operator maintenance manual (OMM)	✓	
Rims 17 × 35	✓	
Rock ejectors	✓	
Secondary steering (electric)	✓	
Spare rim		✓
Suspension, front and rear (EU compliant)	✓	
Tie down eyes	✓	
Tow hooks, front/tow pin, rear	✓	
Wheel chocks		✓
Vandalism protection locks	✓	

775 Environmental Declaration

The following information applies to the machine at the time of final manufacture as configured for sale in the regions covered in this document. The content of this declaration is valid as of the date issued; however, content related to machine features and specifications are subject to change without notice. For additional information, please see the machine's Operation and Maintenance Manual.

For more information on sustainability in action and our progress, please visit https://www.caterpillar.com/en/company/sustainability.

Engine

- The Cat® C27 engine is available in configurations that meet U.S. EPA Tier 4 Final and EU Stage V emission standards or equivalent to U.S. EPA Tier 2.
- Cat U.S. EPA Tier 4 and EU Stage V engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) and are compatible* with ULSD blended with the following lower-carbon intensity fuels** up to:
  - ✓ 20% biodiesel FAME (fatty acid methyl ester)***
  - ✓ 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels
- Cat engines emitting equivalent to U.S EPA Tier 2, or equivalent to U.S. EPA Tier 3 and EU Stage IIIA, are compatible* with diesel fuel blended with the following lower-carbon intensity fuels** up to:
  - ✓ 100% biodiesel FAME (fatty acid methyl ester)****
  - ✓ 100% renewable diesel, HVO (hydrotreated vegetable oil) and GTL (gas-to-liquid) fuels

  Refer to guidelines for successful application. Please consult your Cat dealer or "Caterpillar Machine Fluids Recommendations" (SEBU6250) for details.

** While Caterpillar engines are compatible with these alternative fuels, some regions may not allow their use.*

*** Tailpipe greenhouse gas emissions from lower-carbon intensity fuels are essentially the same as traditional fuels.*

**** Engines with no aftertreatment devices are compatible with higher blends, up to 100% biodiesel (for use of blends higher than 20% biodiesel, consult your Cat dealer).*

***** For use of blends higher than 20% biodiesel, consult your Cat dealer.*

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R1234yf. Refer to the machine labeling for identification of the gas (Global Warming Potential = 0.501). The system contains 1.85 kg (4.1 lb) of refrigerant which has a CO_2 equivalent of 0.001 metric tonnes (0.001 tons).

Paint

- Based on best available knowledge, the maximum allowable concentration, measured in parts per million (PPM), of the following heavy metals in paint are:
  - Barium < 0.01%
  - Chromium < 0.01%
  - Cadmium < 0.01%
  - Lead < 0.01%

Sound Performance – Tier 4 Final/Stage V

Operator Sound Level (ISO 6396:2008)	73 dB(A)
Machine Sound Level (ISO 6395:2008)	114 dB(A)

- The operator sound pressure level is measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.
- The machine sound power level is measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.

Sound Performance – Tier 2 Equivalent

Operator Sound Level (ISO 6396:2008)	75.5 dB(A)
Machine Sound Level (ISO 6395:2008)	117.5 dB(A)

- The operator sound pressure level is measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for extended periods or in a noisy environment.
- The machine sound power level is measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70% of the maximum engine cooling fan speed.

Oils and Fluids

- Caterpillar factory fills with ethylene glycol coolants. Cat Diesel Engine Antifreeze/Coolant (DEAC) and Cat Extended Life Coolant (ELC) can be recycled. Consult your Cat dealer for more information.
- Cat Bio HYDO Advanced is an EU Ecolabel approved biodegradable hydraulic oil.
- Additional fluids are likely to be present, please consult the Operations and Maintenance Manual or the Application and Installation guide for complete fluid recommendations and maintenance intervals.

Features and Technology

- The following features and technology may contribute to fuel savings and/or carbon reduction. Features may vary. Consult your Cat dealer for details.
  - Automatically optimize fuel consumption with two fuel economy modes: standard and adaptive
  - Adjustable engine idle shutdown conserves fuel when the truck is in park and idle for a preset amount of time
  - Haul at a more fuel-efficient engine speed and gear selection with speed limiting
  - Traction control system modulates power and braking between the two wheel groups, allowing a more appropriate response to ground conditions
  - Longer service life for hydraulic oil filter provides longer life with a 1,000-hour replacement interval

Recycling

- The materials included in machines are categorized as below with approximate weight percentage. Because of variations of product configurations, the following values in the table may vary.

Material Type	Weight Percentage
Steel	81.95%
Iron	11.90%
Nonferrous Metal	1.45%
Mixed Metal	0.04%
Mixed Metal and Nonmetal	2.47%
Plastic	0.51%
Rubber	0.07%
Mixed Nonmetallic	0.44%
Fluid	0.28%
Other	0.56%
Uncategorized	0.33%
Total	100%

- A machine with higher recyclability rate will ensure more efficient usage of valuable natural resources and enhance end-of-life value of the product. According to ISO 16714 (Earthmoving machinery – Recyclability and recoverability – Terminology and calculation method), recyclability rate is defined as percentage by mass (mass fraction in percent) of the new machine potentially able to be recycled, reused, or both.

  All parts in the bill of material are first evaluated by component type based on a list of components defined by the ISO 16714 and Japan CEMA (Construction Equipment Manufacturers Association) standards. Remaining parts are further evaluated for recyclability based on material type.Because of variations of product configurations, the following value in the table may vary.

Recyclability – 98%

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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AEXQ3434-02 (09-2026)
Replaces: AEXQ3434-01
Build Number: 07
(Global)