

775Off-Highway Truck

Technical Specifications

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

Table of Contents

Transmission – Tier 4 Final/Stage V. 2 Rollover Protective Structure (ROPS)/Falling Objects Protective Structure (FOPS). Final Drives. 2 Tires. Brakes. 2 Service Refill Capacities Body Hoists – Tier 4 Final/Stage V. 2 Weight/Payload Calculation – Tier 4 Final/Stage V Examples. Body Hoists – Tier 2 Equivalent 2 Weight/Payload Calculation – Tier 2 Equivalent Examples 10/10/20 Payload Management Policy for Optimal Machine Life. Capacity – Dual Slope – 100% Fill Factor 3 Dimensions. Capacity – Quarry – 100% Fill Factor 3 Retarding Performance – Tier 4 Final/Stage V Suspension. 3 Retarding Performance – Tier 4 Final/Stage V Suspension. 3 Retarding Performance – Tier 2 Equivalent 10/10/20 Payload Management Policy for Optimal Machine Life. 11/20 Payload Manage	Engine – Meets U.S. EPA Tier 4 Final/EU Stage V emission standards2	Air Conditioning System
Transmission – Tier 2 Equivalent	Engine – Emits equivalent to U.S. EPA Tier 2	Steering
Final Drives. 2 Tires. Brakes. 2 Service Refill Capacities Body Hoists – Tier 4 Final/Stage V Body Hoists – Tier 2 Equivalent Capacity – Dual Slope – 100% Fill Factor Capacity – Flat Floor – 100% Fill Factor Capacity – Quarry – 100% Fill Factor Weight/Payload Calculation – Tier 2 Equivalent Examples Dimensions. Capacity – Quarry – 100% Fill Factor Retarding Performance – Tier 4 Final/Stage V Gradeability/Speed/Rimpull – Tier 4 Final/Stage V Retarding Performance – Tier 2 Equivalent Suspension. 3 Retarding Performance – Tier 2 Equivalent	Transmission – Tier 4 Final/Stage V	
Brakes. 2 Service Refill Capacities Body Hoists – Tier 4 Final/Stage V . 2 Weight/Payload Calculation – Tier 4 Final/Stage V Examples	Transmission – Tier 2 Equivalent	Structure (FOPS)
Brakes. 2 Service Refill Capacities Body Hoists – Tier 4 Final/Stage V Body Hoists – Tier 2 Equivalent Capacity – Dual Slope – 100% Fill Factor Capacity – Flat Floor – 100% Fill Factor Capacity – Quarry – 100% Fill Factor Weight/Payload Calculation – Tier 2 Equivalent Examples Dimensions Retarding Performance – Tier 4 Final/Stage V Gradeability/Speed/Rimpull – Tier 4 Final/Stage V Retarding Performance – Tier 2 Equivalent Suspension Suspension Capacity – Quarry – 100% Fill Factor Retarding Performance – Tier 2 Equivalent Suspension Capacity – Gradeability/Speed/Rimpull – Tier 4 Final/Stage V Retarding Performance – Tier 2 Equivalent	Final Drives	Tires
Body Hoists – Tier 2 Equivalent		Service Refill Capacities
Body Hoists – Tier 2 Equivalent	Body Hoists – Tier 4 Final/Stage V	Weight/Payload Calculation – Tier 4 Final/Stage V Examples
Capacity – Dual Slope – 100% Fill Factor. Capacity – Flat Floor – 100% Fill Factor. Capacity – Quarry – 100% Fill Factor. Weight Distributions – Approximate. Suspension. 10/10/20 Payload Management Policy for Optimal Machine Life Dimensions. Retarding Performance – Tier 4 Final/Stage V Gradeability/Speed/Rimpull – Tier 4 Final/Stage V Retarding Performance – Tier 2 Equivalent Suspension.		Weight/Payload Calculation – Tier 2 Equivalent Examples
Capacity – Flat Floor – 100% Fill Factor. 3 Capacity – Quarry – 100% Fill Factor. 3 Weight Distributions – Approximate 3 Suspension. 3 Dimensions. 3 Retarding Performance – Tier 4 Final/Stage V. 1 Gradeability/Speed/Rimpull – Tier 4 Final/Stage V. 1 Retarding Performance – Tier 2 Equivalent 1		10/10/20 Payload Management Policy for Optimal Machine Life 8
Capacity – Quarry – 100% Fill Factor. 3 Weight Distributions – Approximate 3 Suspension. 3 Retarding Performance – Tier 4 Final/Stage V		Dimensions
Weight Distributions – Approximate		Retarding Performance – Tier 4 Final/Stage V10
Suspension		Gradeability/Speed/Rimpull – Tier 4 Final/Stage V
Construction to the Construction of the Constr		Retarding Performance – Tier 2 Equivalent
Soulid	Sound	Gradeability/Speed/Rimpull – Tier 2 Equivalent



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	578 kW	775 hp
Net Power – 80/1269/EEC	578 kW	775 hp
Engine Power – ISO 14396	605.2 kW	812 hp
Net Torque Speed	1,200 rpm	
Net Torque	4269 N·m	3,148 lb-ft
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	590 kW	791 hp
Net Power – 80/1269/EEC	590 kW	791 hp
Engine Power – ISO 14396	607 kW	813 hp
Net Torque Speed	1,300 rpm	
Net Torque	3896 N·m	2,874 lb-ft
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	10.6 km/h	6.6 mph
Forward 2	15.0 km/h	9.3 mph
Forward 3	20.3 km/h	12.6 mph
Forward 4	27.0 km/h	16.8 mph
Forward 5	36.7 km/h	22.8 mph
Forward 6	49.4 km/h	30.7 mph
Forward 7	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	37.0 km/h	23.0 mph
Forward 6	50.1 km/h	31.1 mph
Forward 7	67.6 km/h	42.0 mph
Reverse	14.1 km/h	8.8 mph

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

Final Drives		
Differential Ratio	3.64:1	
Planetary Ratio	4.80:1	
Total Reduction Ratio	17.49:1	
Brakes		
Brake surface OD – Front	655 mm	25.7 in
Brake Surface – Rear	61 269 cm ²	9,497 in ²
Brake Standards	ISO 3450:20	11

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 Facto	r
Struck	32.6 m ³	42.7 yd³
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 yd³
Heaped (SAE 2:1)*	42.2 m ³	55.2 yd³

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

Capacity – Quarry – 100% Fill Factor			
Struck	32.0 m ³	41.9 yd³	-
Heaped (SAE 2:1)*	41.9 m³	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)	76 dB(A)
Machine Sound Level (ISO 6395:2008)	118 dB(A)

- The operator sound pressure level is 76 dB(A), measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70 percent 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 118 dB(A), measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.

Sound Performance – Tier 2 Equivalent

Operator Sound Level (ISO 6396:2008)	76 dB(A)
Machine Sound Level (ISO 6395:2008)	118 dB(A)

- The operator sound pressure level is 76 dB(A), measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70 percent 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 118 dB(A), measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.2 kg (4.9 lb) of refrigerant which has a CO₂ equivalent of 2.86 metric tonnes (3.152 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 meets ISO 3471:2008 ROPS criteria.
- FOPS meets ISO 3449:2005 Level II FOPS criteria.

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	14.0 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	18.0 gal
Transmission and Converter System (Tier 2 Equivalent)	61 L	16.1 gal
Front Wheels	3.4 L	1 gal

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)		10/12 .39/0.47)				14/16 .55/0.62)				
Liner: Floor/Sidewall/Frontwall	mm (in)				16/8/10 (0.62/0.31/0.39)				2/8/8 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	kg (lb)	76 409	(168,454)	71 459	(157,541)	70 442	(155,301)	73 928	(162,986)		
Target)*	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										
	Witho	ut Liner	With Liner 20/10/12 (0.79/0.39/0.47)							
mm (in)		•								
mm (in)				/8/10 .31/0.39)						
m³ (yd³)	42.2	(55.2)	41.7	(54.5)						
kg (lb)	111 811	(246,502)	111 811	(246,502)						
kg (lb)	35 708	(78,723)	35 708	(78,723)						
kg (lb)	11 466	(25,278)	15 482	(34,132)						
kg (lb)	47 174	(104,001)	51 190	(112,855)						
L (gal)	795	(210)	795	(210)						
kg (lb)	669	(1,474)	669	(1,474)						
kg (lb)	47 843	(105,475)	51 859	(114,329)						
kg (lb)	63 968	(141,027)	59 952	(132,173)						
tonnes (tons)	64.0	(70.5)	60.0	(66.1)						
kg (lb)	70 365	(155,129)	65 947	(145,390)						
tonnes (tons)	70.4	(77.6)	65.9	(72.7)						
kg (lb)	76 762	(169,232)	71 942	(158,607)						
tonnes (tons)	76.8	(84.6)	71.9	(79.3)						
	mm (in) mm (in) m³ (yd³) kg (lb) kg (lb) kg (lb) L (gal) kg (lb) kg (lb) kg (lb) tonnes (tons) kg (lb)	Without Min 20/ (0.79/0 10 (0.79/0 10 (0.79/0 10 (0.79/0 10 (0.79/0 10 (0.79/0 (0.79/0 10 (0.79/0 (0.7	Without Liner mm (in) 20/10/12 (0.79/0.39/0.47) mm (in) (0.79/0.39/0.47) mm (in) (in) m³ (yd³) 42.2 (55.2) kg (lb) 111 811 (246,502) kg (lb) 35 708 (78,723) kg (lb) 11 466 (25,278) kg (lb) 47 174 (104,001) L (gal) 795 (210) kg (lb) 669 (1,474) kg (lb) 47 843 (105,475) kg (lb) 43 968 (141,027) tonnes (tons) 64.0 (70.5) kg (lb) 70 365 (155,129) tonnes (tons) 70.4 (77.6) kg (lb) 76 762 (169,232)	Without Liner With mm 20/10/12 20/ (in) (0.79/0.39/0.47) (0.79/0 mm 16/ (0.62/0 m³ (yd³) 42.2 (55.2) 41.7 kg (lb) 111 811 (246,502) 111 811 kg (lb) 35 708 (78,723) 35 708 kg (lb) 11 466 (25,278) 15 482 kg (lb) 47 174 (104,001) 51 190 L (gal) 795 (210) 795 kg (lb) 669 (1,474) 669 kg (lb) 47 843 (105,475) 51 859 kg (lb) 63 968 (141,027) 59 952 tonnes (tons) 64.0 (70.5) 60.0 kg (lb) 70 365 (155,129) 65 947 tonnes (tons) 70.4 (77.6) 65.9 kg (lb) 76 762 (169,232) 71 942						

^{*}Refer to Caterpillar 10/10/20 Payload Policy.

	Sideboards (optional)									
Heig	ght	Maximun Volume Add Weight Material D		Volume Add Weight						
mm	(in)	m^3	(yd³)	kg	(lb)	kg	(lb)			
155	(6.0)	2.9	(3.8)	430	(948)	1681	(342)			

^{**}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 \times 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)		10/12 .39/0.47)		20/10/12 20/10/12 .79/0.39/0.47) (0.79/0.39/0.47)				14/16 .55/0.62)		
Liner: Floor/Sidewall/Frontwall	mm (in)			16/8/10 (0.62/0.31/0.39)					2/8/8 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	kg (lb)	76 595	(168,863)	71 645	(157,950)	70 628	(155,708)	74 114	(163,393)		
Target)*	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 Slop	e				
Machine Weights Based on Configuration		Witho	ut Liner	With	Liner	
Base: Floor/Sidewall/Frontwall	mm (in)		10/12 1.39/0.47)	20/10/12 (0.79/0.39/0.47)		
Liner: Floor/Sidewall/Frontwall	mm (in)				/8/10 .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)									
Heiç	jht	Volume Add		We	Weight		Maximum (110%) Material Density**			
mm	(in)	m^3	(yd³)	kg	(lb)	kg	(lb)			
155	(6)	2.9	(3.8)	430	(948)	1681	(342)			

^{**}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

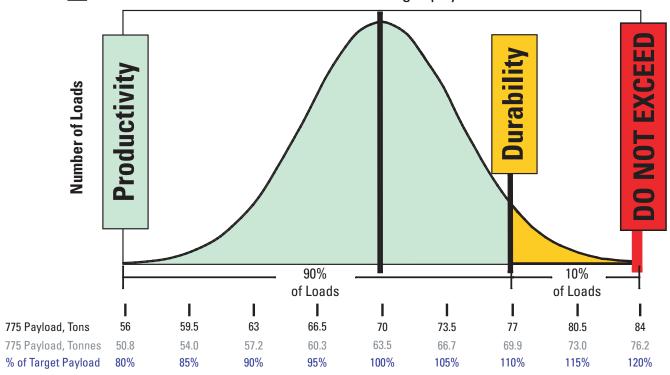
Target Payload = Target Gross Machine Weight less Empty Operating Weight

Maximum Payload = Target Payload × 1.10 (110%)

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

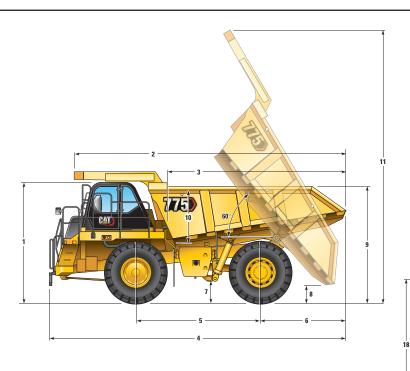
The ideal hauling strategy that maximizes machine and machine component life is to keep the mean of all payloads at or below the machine's rated target payload.

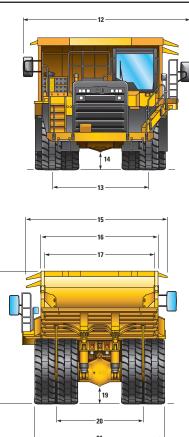
- 90% of loads should fall into this range
- No more than 10% of loads should exceed 10% of the target payload
- No loads should be above 20% of the target payload



Dimensions

All dimensions are approximate.





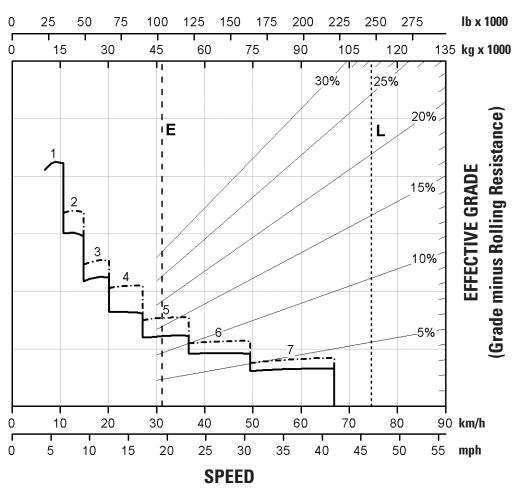
		D. LOI. FI (FI					
		Dual S	lope	Flat Floor		Qua	rry
1	Height to Top of ROPS	4108 mm	13.48 ft	4108 mm	13.48 ft	4108 mm	13.48 ft
2	Overall Body Length	9215 mm	30.23 ft	9293 mm	30.49 ft	9295 mm	30.50 ft
3	Inside Body Length	6100 mm	20.01 ft	6100 mm	20.01 ft	6100 mm	20.01 ft
4	Overall Length	10 073 mm	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.

GROSS WEIGHT



Continuous Grade Length

----- with ARC only

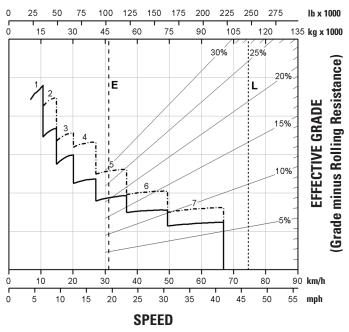
---- ARC and Engine Brake

E – Typical Field Empty Weight

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

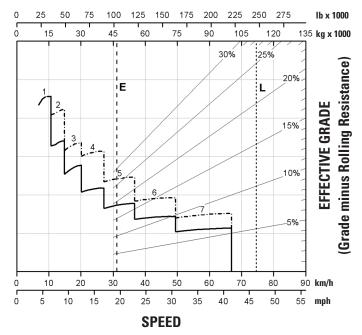
Retarding Performance – Tier 4 Final/Stage V





Grade Distance – 450 m (1,500 ft)

GROSS WEIGHT



Grade Distance – 600 m (2,000 ft)

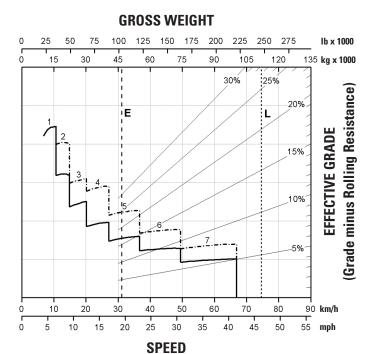
with ARC only

⁻⁻⁻⁻ ARC and Engine Brake

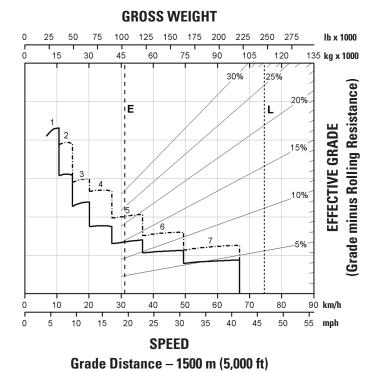
E – Typical Field Empty Weight

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)



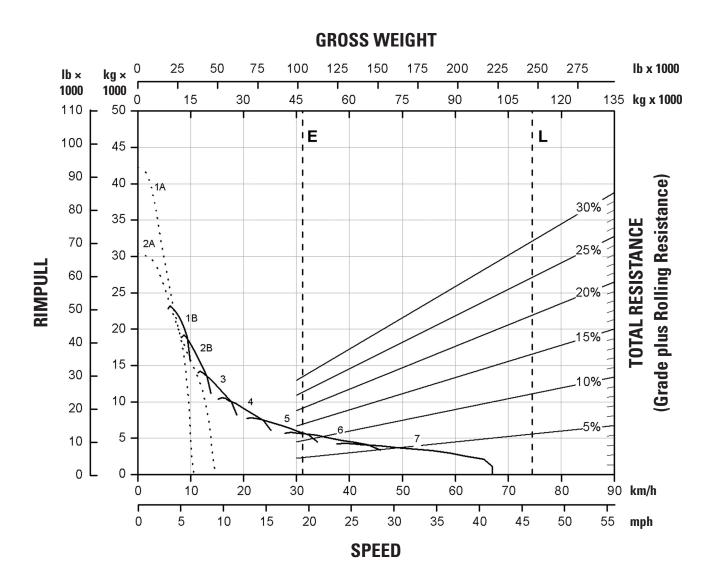
- with ARC only
- - - ARC and Engine Brake

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

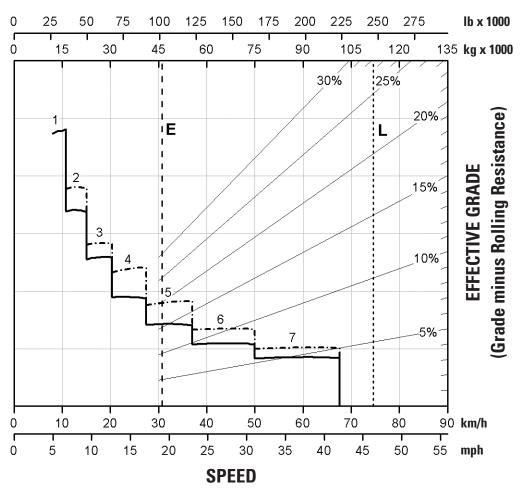
L – Target Gross Machine Operating Weight 111 811 kg (246,500 lb)

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

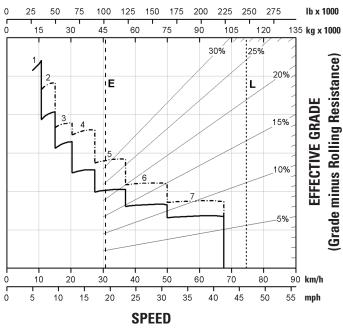
---- ARC and Engine Brake

E – Typical Field Empty Weight

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

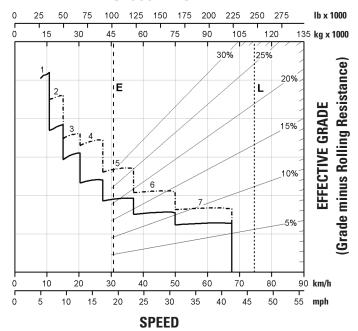
Retarding Performance – Tier 2 Equivalent





Grade Distance – 450 m (1,500 ft)

GROSS WEIGHT



Grade Distance - 600 m (2,000 ft)

with ARC only

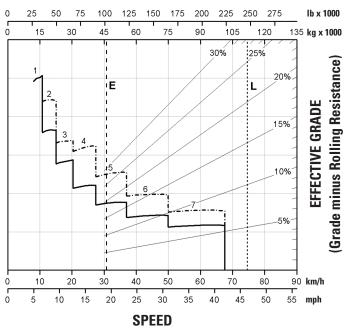
⁻⁻⁻⁻ ARC and Engine Brake

E – Typical Field Empty Weight

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

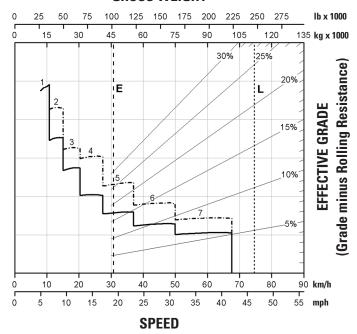
Retarding Performance – Tier 2 Equivalent

GROSS WEIGHT



Grade Distance – 900 m (3,000 ft)

GROSS WEIGHT



with ARC only

Grade Distance – 1500 m (5,000 ft)

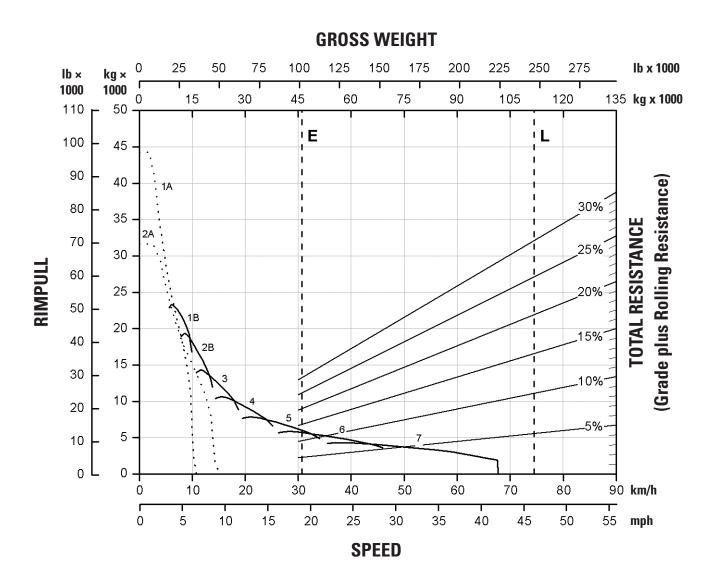
^{- — - — - —} ARC and Engine Brake

E – Typical Field Empty Weight

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

Gradeability/Speed/Rimpull – Tier 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)

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 U.S. EPA Tier 2 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 TM) -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	<u>√</u>	
Autolube power supply ready Batteries, maintenance-free, 12V (2),	<u> </u>	
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	\checkmark	

	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, training with lap belt	✓	
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	✓	
Visibility package		✓
TECHNOLOGY PRODUCTS		
Economy modes, standard and adaptive	√	
Product Link™, cellular or satellite	✓	
Traction control system (TCS)		√
Truck production management system		√
Advanced Health		✓

Standard and Optional Equipment

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

	Standard	Optional
OTHER		
Antifreeze	✓	
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 Final and EU Stage V diesel engines are required to use ULSD (ultra-low sulfur diesel fuel with 15 ppm of sulfur or less) or ULSD blended with the following lower-carbon intensity fuels up to:
 - ✓ 20% biodiesel FAME (fatty acid methyl ester)*
 - √ 100% renewable diesel, HVO (hydrogenated vegetable oil) and GTL (gas-to-liquid) fuels
- Cat engines equivalent to U.S. EPA Tier 2 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 (hydrogenated 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.

- *Engines with no aftertreatment devices can use higher blends, up to 100% biodiesel.
- **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 R134a (Global Warming Potential = 1430). The system contains 2.2 kg (4.9 lb) of refrigerant which has a CO₂ equivalent of 2.860 metric tonnes (3.152 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% Lead < 0.01%

Sound Performance - Tier 4 Final/Stage V

Operator Sound Level (ISO 6396:2008)	76 dB(A)
Machine Sound Level (ISO 6395:2008)	118 dB(A)

- The operator sound pressure level is 76 dB(A), measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70 percent 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 118 dB(A), measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70 percent of the maximum engine cooling fan speed.

Sound Performance – Tier 2 Equivalent

Operator Sound Level (ISO 6396:2008)	76 dB(A)
Machine Sound Level (ISO 6395:2008)	118 dB(A)

- The operator sound pressure level is 76 dB(A), measured according to the test procedures and conditions specified in ISO 6396:2008 for the standard machine configuration. The measurement was conducted at 70 percent 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 118 dB(A), measured according to the test procedures and conditions specified in ISO 6395:2008 for the standard machine configuration. The measurement was conducted at 70 percent 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%



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ZEPPELIN IN IHRER NÄHE

Mit unseren rund 40 Niederlassungen in Deutschland und Österreich sind wir immer in der Nähe Ihres Standortes oder Ihrer Baustelle. Der Zeppelin Service steht Ihnen rund um die Uhr zur Verfügung. Wir liefern 98 % aller Ersatzteile innerhalb von 24 Stunden.



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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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AEXQ3434-00 (08-2023) Build Number: 07 (Global)

