988
Wheel Loader

Technical Specifications

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

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988 Wheel Loader Specifications

Engine

Engine Model	Cat® C18	
Rated Speed	1,700 rpm	
Peak Power Speed	1,500 rpm	
Engine (ISO 14396:2002)	432 kW	580 hp
Gross (SAE J1995:2014)	439 kW	588 hp
Net Power (SAE J1349:2011)	401 kW	538 hp
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1,105 in^3
Peak Torque (1,200 rpm) (SAE J1995:2014)	2852 N·m	2,104 lbf-ft
Torque Rise	58%	

Three engine emission options are available:

1. Meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
2. Meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
3. Meets China Nonroad Stage IV emission standards.

- 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.

Transmission

Transmission Type	Cat planetary power shift	
Forward 1	6.5 km/h	4.0 mph
Forward 2	11.6 km/h	7.2 mph
Forward 3	20.4 km/h	12.7 mph
Forward 4	34.7 km/h	21.6 mph
Reverse 1	7.5 km/h	4.7 mph
Reverse 2	13.3 km/h	8.3 mph
Reverse 3	23.2 km/h	14.4 mph
Direct Drive Forward 1	Lock-up disabled	
Direct Drive Forward 2	12.5 km/h	7.8 mph
Direct Drive Forward 3	22.3 km/h	13.9 mph
Direct Drive Forward 4	39.3 km/h	24.4 mph
Direct Drive Reverse 1	8.0 km/h	5.0 mph
Direct Drive Reverse 2	14.3 km/h	8.9 mph
Direct Drive Reverse 3	25.5 km/h	15.8 mph

Operating Specifications

Operating Weight	51 062 kg	112,574 lb
Rated Payload – Quarry Face	11.3 tonnes	12.5 tons
Rated Payload – Loose Material	14.5 tonnes	16.0 tons
Bucket Capacity Range	4.7-13.0 m^3	6.2-17.0 yd^3
Cat Truck Match – Standard	770-772	
Cat Truck Match – High Lift	773-775	

Hydraulic System – Lift/Tilt

Lift/Tilt System – Circuit	EH – positive flow control, flow sharing	
Lift/Tilt System Pumps	Variable displacement piston	
Maximum Flow at 1,400-1,860 rpm	580 L/min	153 gal/min
Relief Valve Setting – Lift/Tilt	32 800 kpa	4,757 psi
Cylinders, Double Acting: Lift, Bore and Stroke	210 mm x 1050 mm	8.7 in x 41.3 in
Cylinders, Double Acting: Lift, Bore and Stroke	266 mm x 685 mm	8.7 in x 27 in
Pilot System	Variable displacement piston	
Relief Valve Setting	3800 kPa	551 psi

Hydraulic Cycle Time (1,400-1,860 rpm)

Rackback	4.5 seconds
Raise	8.0 seconds
Dump	2.2 seconds
Lower Float Down	3.5 seconds
Total Hydraulic Cycle Time (empty bucket)	18.2 seconds

Hydraulic System – Steering

Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Piston, variable displacement	
Maximum Flow @ × 1,400-1,600 rpm	270 L/min	71.3 gal/min
Relief Valve Setting – Steering	30,000 kPa	4,351 psi
Total Steering Angle	86°	
Steering Cycle Time (high idle)	3.4 seconds	
Steering Cycle Time (low idle)	5.6 seconds	

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas.
- If equipped with R134a (Global Warming Potential = 1430), the system contains 1.8 kg (3.9 lb) of refrigerant which has a CO_2 equivalent of 2.574 metric tonnes (2.837 tons).

Axles

Front	Fixed
Rear	Trunnion
Oscillation Angle	13°

Brakes

Brakes	ISO 3450:2011

Operator Cab

Rollover Protective Structure/ Falling Objects Protective Structure (ROPS/FOPS)	ROPS/FOPS meet ISO 3471:2008 and ISO 3449:2005 Level II standards

Sound Performance – Tier 4 Final/Stage V

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	111 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)**

Sound Performance – Tier 3/Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	112 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)**

*For machines in European Union countries and in countries that adopt the "EU Directives" and "UK Directives."

**European Union Directive "2000/14/EC" as amended by "2005/88/EC" and UK Noise Regulation 2001 No. 1701.

- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. 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.

Service Refill Capacities

Fuel Tank	712 L	188.0 gal
Cooling System	120 L	31.7 gal
Coolant (validated by test cell fill quantities)	125 L	33.0 gal
Crankcase	60 L	15.9 gal
Diesel Exhaust Fluid Tank (for Tier 4 Final/Stage V only)	33 L	8.7 gal
Transmission	92 L	24.3 gal
Transmission (validated by test cell fill quantities)	110 L	29.0 gal
Differentials and Final Drives – Front	186 L	49.1 gal
Differentials and Final Drives – Rear	186 L	49.1 gal
Hydraulic System Factory Fill	475 L	125.5 gal
Hydraulic System (tank only)	240 L	63.4 gal

- All non-road Tier 4 Final/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 (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.
- 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).**
- For pre-Tier 4 engines: Cat engines 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.

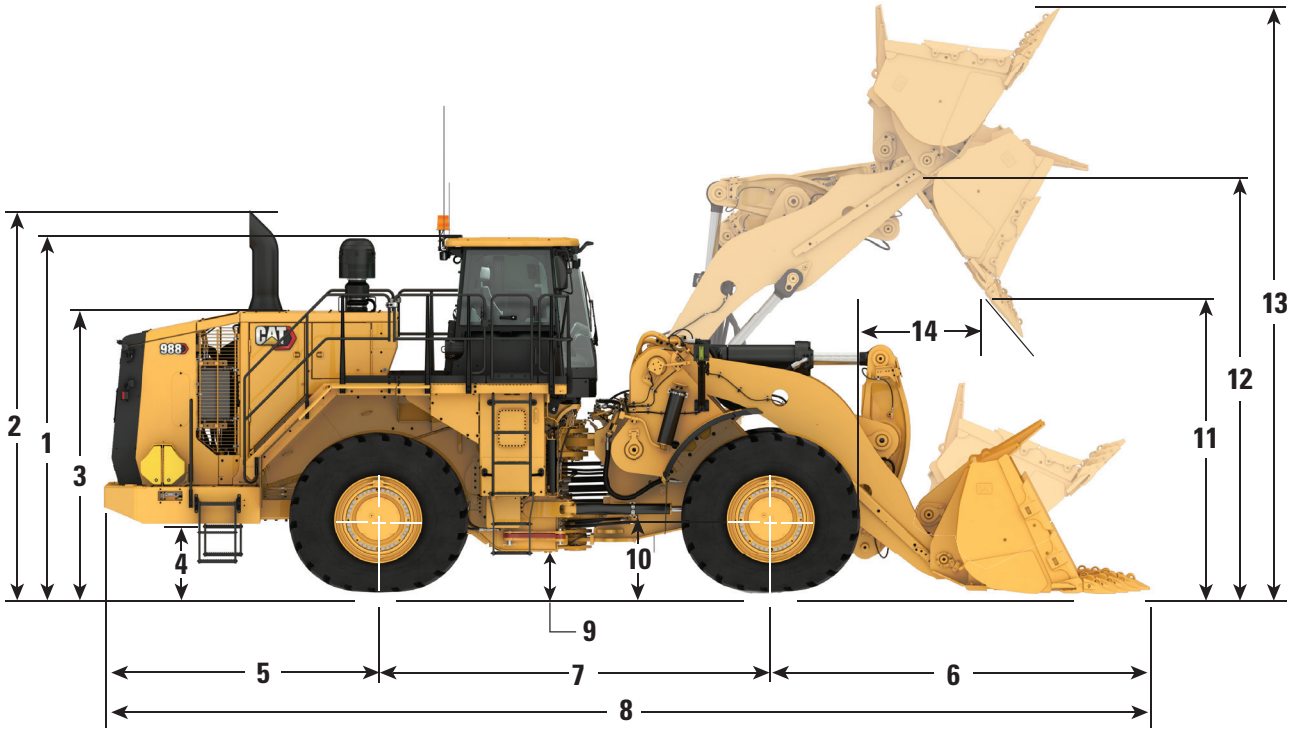
*For use of blends higher than 20% biodiesel, consult your Cat dealer.

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

988 Wheel Loader Specifications

Dimensions

All dimensions are approximate.



		Standard Lift		High Lift	
1	Ground to Top of ROPS	4202 mm	13.8 ft	4202 mm	13.8 ft
2	Ground to Top of Exhaust Stacks (Tier 4)	4521 mm	14.8 ft	4521 mm	14.8 ft
	Ground to Top of Exhaust Stacks (LRC)	4199 mm	13.8 ft	4199 mm	13.8 ft
3	Ground to Top of Hood	3334 mm	10.9 ft	3334 mm	10.9 ft
4	Ground to Bumper Clearance	933 mm	3.1 ft	933 mm	3.1 ft
5	Rear Axle Centerline to Bumper	3187 mm	10.5 ft	3187 mm	10.5 ft
6	Front Axle Centerline to Bucket Tip	4254 mm	14.0 ft	4661 mm	15.3 ft
7	Wheel Base	4550 mm	14.9 ft	4550 mm	14.9 ft
8	Maximum Overall Length	11 991 mm	39.3 ft	12 398 mm	40.7 ft
9	Ground to Lower Hitch Clearance	568 mm	1.9 ft	568 mm	1.9 ft
10	Ground to Center of Axles	978 mm	3.2 ft	978 mm	3.2 ft
11	Clearance at Maximum Lift (45° Dump)	3641 mm	11.9 ft	4043 mm	13.3 ft
12	B-Pin Height at Maximum Lift	5485 mm	18.0 ft	5887 mm	19.3 ft
13	Maximum Overall Height – Bucket Raised	7455 mm	24.5 ft	7849 mm	25.8 ft
14	Reach at Maximum Lift (45° Dump)	1981 mm	6.5 ft	2062 mm	6.8 ft

Note: Specifications are calculated with 6.9 m^3 (9.0 yd^3) rock bucket equipped with Michelin XLDD1 35/65 R33 tires.

Bucket Capacity/Material Density Selection Guide

Standard Lift/High Lift
Rated Payload (Quarry Face) – 11.3 tonnes/12.5 tons

Material Density				Bucket Volume	
kg/m³	lb/yd³	tonnes/m³	tons/yd³	m³	yd³
1468-1614	2,500-2,750	1.47-1.61	1.25-1.38	7.6	10.00
1638-1801	2,778-3,056	1.64-1.80	1.39-1.53	6.9	9.00
1766-1942	3,001-3,300	1.77-1.94	1.50-1.65	6.4	8.33

Standard Lift/High Lift
Rated Payload (Loose Material) – 14.5 tonnes/16 tons

Material Density				Bucket Volume	
kg/m³	lb/yd³	tonnes/m³	tons/yd³	m³	yd³
1510-1667	2,560-2,816	1.51-1.67	1.28-1.41	9.6	12.5
1726-1905	2,909-3,200	1.73-1.90	1.45-1.60	8.4	11.0
1908-2105	3,200-3,520	1.91-2.11	1.60-1.76	7.6	10.0

Note: Rated Payload is the material weight in the bucket that the loader is designed to carry, excluding the weight of the bucket, ground engaging tool (GET), and wear material. Rated Payloads are published at 100%, even though Caterpillar does allow 110%. These values are given in terms of mass. There is no consideration to loose density weights of various materials since they are so diverse. Refer to the Large Wheel Loader Payload Policy.

For guided bucket selection, including Engineered To Order (ETO) requests, visit expert.cat.com.

988 Wheel Loader Specifications

Aggregate Package Operating Specifications – Standard Lift

For machines equipped with 35/65 R33 XLDD1 tires - see additional tables for other tire sizes.

		988 Std Lift Tires: 35/65 R33 XLDD1, PN: 339-8790 SLR: 978 mm			
Bucket Type		General Purpose			
Ground Engaging Tool		Adapters or BOCE			
Cutting Edge Type		Straight			
Bucket Part Number (Group Level)		**638-8780**	**638-8770**	**634-0623**	**621-1500**
Bucket Load At Rated Capacity	kg lb	11 340 25,000	11 340 25,000	11 340 25,000	11 340 25,000
Rated Capacity	m^3 yd^3	9.6 12.5	8.4 11.0	7.6 10.0	6.9 9.0
Struck Capacity ISO	m^3 yd^3	8.0 10.5	7.0 9.2	6.5 8.5	5.5 7.2
Heaped Capacity ISO	m^3 yd^3	9.5 12.4	8.5 11.1	7.5 9.8	7.0 9.2
Bucket Width – Overall	mm ft	3987 13.1	3987 13.1	3987 13.1	3987 13.1
Clearance At 45° Dump (Tooth Tip) (A)	mm ft	— —	— —	— —	— —
Clearance At 45° Dump (Edge) (A)	mm ft	3647 12.0	3754 12.3	3819 12.5	3882 12.7
Reach At 45° Dump (Tooth Tip) (F)	mm ft	— —	— —	— —	— —
Reach At 45° Dump (Edge) (F)	mm ft	1900 6.2	1794 5.9	1722 5.6	1652 5.4
Horizontal Arm and Level Bucket Reach (Edge)	mm ft	3914 12.8	3764 12.3	3667 12.0	3573 11.7
Digging Depth (Segment)	mm in	195 7.7	195 7.7	200 7.9	205 8.1
Overall Length – Bucket Level Ground (E)	mm ft	11 958 39.2	11 808 38.7	11 715 38.4	11 624 38.1
Overall Height (C)	mm ft	7829 25.7	7688 25.2	7589 24.9	7486 24.6
Turning Circle – Corner SAE Carry	mm ft	17 401 57.1	17 313 56.8	17 261 56.6	17 212 56.5
Rackback Angle At SAE Carry	deg	50.0	50.0	50.0	50.1
Full Dump At Max Lift	deg	-49.8	-49.8	-49.8	-49.8
Tipping Load, Rigid Tires – Straight	kg lb	39 320 86,686	39 938 88,049	40 251 88,739	40 621 89,555
At Operating Weight (Articulated 35°)	kg lb	35 066 62,814	35 669 66,116	35 975 68,209	36 336 70,382
Tipping Load, Tire Squash – Straight	kg lb	36 841 81,219	37 489 82,649	37 828 83,397	38 221 84,262
At Operating Weight (Articulated 35°)	kg lb	31 258 68,911	31 903 70,334	32 247 71,092	32 639 71,956
Breakout Force SAE Rated	kg lb	39 750 87,633	43 204 95,248	45 673 100,691	48 330 106,550
Operating Weight (Notes A&B)	kg lb	54 641 120,462	54 223 119,540	53 996 119,040	53 743 118,482
Weight Distribution At SAE Carry Front	kg lb	28 665 63,196	27 942 61,601	27 552 60,742	27 122 59,794
Weight Distribution At SAE Carry Rear	kg lb	25 975 57,266	26 281 57,940	26 444 58,298	26 621 58,688
Loaded Machine Weight	kg lb	69 156 152,462	68 738 151,540	68 511 151,040	68 258 150,482
Weight Distribution At SAE Carry Front	kg lb	52 185 115,047	51 357 113,222	50 911 112,240	50 420 111,158
Weight Distribution At SAE Carry Rear	kg lb	16 971 37,415	17 381 38,318	17 599 38,800	17 837 39,324

*Static tipping loads and operating weights include full fluids and 80 kg (176 lb) operator.
**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with ISO 14397-2:2007.
Full compliance to ISO 14397-1:2007.

Aggregate Package Operating Specifications – High Lift

For machines equipped with 35/65 R33 XLDD1 tires - see additional tables for other tire sizes.

		988 Std Lift Tires: 35/65 R33 XLDD1, PN: 339-8790 SLR: 978 mm			
Bucket Type		General Purpose			
Ground Engaging Tool		Adapters or BOCE			
Cutting Edge Type		Straight			
Bucket Part Number (Group Level)		**638-8780**	**638-8770**	**634-0623**	**621-1500**
Rated Capacity	m^3 yd^3	9.6 12.5	8.4 11.0	7.6 10.0	6.9 9.0
Struck Capacity ISO	m^3 yd^3	8.0 10.5	7.0 9.2	6.5 8.5	5.5 7.2
Heaped Capacity ISO	m^3 yd^3	9.5 12.4	8.5 11.1	7.5 9.8	7.0 9.2
Bucket Width – Overall	mm ft	3987 13.1	3987 13.1	3987 13.1	3987 13.1
Clearance At 45° Dump (Tooth Tip) (A)	mm ft	— —	— —	— —	— —
Clearance At 45° Dump (Edge) (A)	mm ft	4041 13.3	4147 13.6	4212 13.8	4275 14.0
Reach At 45° Dump (Tooth Tip) (F)	mm ft	— —	— —	— —	— —
Reach At 45° Dump (Edge) (F)	mm ft	1988 6.5	1882 6.2	1810 5.9	1740 5.7
Horizontal Arm and Level Bucket Reach (Edge)	mm ft	4253 14.0	4103 13.5	4006 13.1	3912 12.8
Digging Depth (Segment)	mm in	214 8.4	214 8.4	219 8.6	224 8.8
Overall Length – Bucket Level Ground (E)	mm ft	12 365 40.6	12 215 40.1	12 121 39.8	12 030 39.5
Overall Height (C)	mm ft	8222 27.0	8081 26.5	7982 26.2	7880 25.9
Turning Circle – Corner SAE Carry	mm ft	17 736 10.3	17 647 10.1	17 595 9.9	17 545 9.7
Rackback Angle At SAE Carry	deg	52.8	52.8	52.8	52.9
Full Dump At Max Lift	deg	-50.1	-50.1	-50.1	-50.1
Tipping Load, Rigid Tires – Straight	kg lb	39 797 87,737	40 367 88,995	40 652 89,622	40 992 90,371
At Operating Weight (Articulated 35°)	kg lb	35 316 63,634	35 874 66,743	36 155 68,706	36 489 70,741
Tipping Load, Tire Squash – Straight	kg lb	37 448 82,559	38 053 83,892	38 366 84,581	38 729 85,384
At Operating Weight (Articulated 35°)	kg lb	31 483 65,817	32 090 68,606	32 411 70,374	32 778 72,202
Breakout Force SAE Rated	kg lb	36 548 80,574	39 758 87,651	42 053 92,710	44 524 98,158
Operating Weight (Notes A&B)	kg lb	57 550 126,876	57 132 125,954	56 905 125,454	56 652 124,896
Weight Distribution At SAE Carry Front	kg lb	28 638 63,137	27 884 61,473	27 477 60,576	27 027 59,584
Weight Distribution At SAE Carry Rear	kg lb	28 912 63,739	29 248 64,481	29 428 64,878	29 625 65,312
Loaded Machine Weight	kg lb	72 065 158,876	71 647 157,954	71 420 157,454	71 167 156,896
Weight Distribution At SAE Carry Front	kg lb	53 339 117,591	52 493 115,726	52 037 114,723	51 534 113,613
Weight Distribution At SAE Carry Rear	kg lb	18 726 41,285	19 154 42,228	19 383 42,731	19 633 43,283

*Static tipping loads and operating weights include full fluids and 80 kg (176 lb) operator.
**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with ISO 14397-2:2007.
Full compliance to ISO 14397-1:2007.

988 Wheel Loader Specifications

Operating Specifications – Standard Lift

For machines equipped with 35/65 R33 XLDD1 tires - see additional tables for other tire sizes.

		988 Std Lift Tires: 35/65 R33 XLDD1, PN: 339-8790 SLR: 978 mm					
Bucket Type		**General Purpose**		**Rock**			**HD Rock**
Ground Engaging Tool		**Adapters or BOCE**		**K130**	**K130**	**K130**	**K130**
Cutting Edge Type		**Straight**	**Straight**	**Spade**	**Spade**	**Spade**	**Spade**
Bucket Part Number (Group Level)		**634-0623**	**621-1500**	**615-5051**	**620-8133**	**620-8132**	**628-3419**
Rated Capacity	m^3	7.6	6.9	7.6	6.9	6.4	6.3
	yd^3	10.0	9.0	10.0	9.0	8.33	8.33
Struck Capacity ISO	m^3	6.5	5.5	6.5	5.5	5	5
	yd^3	8.5	7.2	8.5	7.2	6.5	6.5
Heaped Capacity ISO	m^3	7.5	7	7.5	7	6.5	6.5
	yd^3	9.8	9.2	9.8	9.2	8.5	8.5
Bucket Width – Overall	mm	3987	3987	4020	4020	4020	4080
	ft	13.1	13.1	13.2	13.2	13.2	13.4
Clearance At 45° Dump (Tooth Tip) (A)	mm	—	—	3394	3471	3527	3505
	ft	—	—	11.1	11.4	11.6	11.5
Clearance At 45° Dump (Edge) (A)	mm	3819	3882	3603	3681	3736	3723
	ft	12.5	12.7	11.8	12.1	12.3	12.2
Reach At 45° Dump (Tooth Tip) (F)	mm	—	—	2128	2050	1995	1997
	ft	—	—	7.0	6.7	6.5	6.6
Reach At 45° Dump (Edge) (F)	mm	1722	1652	1936	1858	1803	1816
	ft	5.6	5.4	6.4	6.1	5.9	6.0
Horizontal Arm and Level Bucket Reach (Edge)	mm	3667	3573	3971	3861	3783	3801
	ft	12.0	11.7	13.0	12.7	12.4	12.5
Digging Depth (Segment)	mm	200	205	201	201	201	201
	in	7.9	8.1	7.9	7.9	7.9	7.9
Overall Length – Bucket Level Ground (E)	mm	11 715	11 624	12 303	12 193	12 115	12 131
	ft	38.4	38.1	40.4	40.0	39.7	39.8
Overall Height (C)	mm	7589	7486	7559	7457	7383	7383
	ft	24.9	24.6	24.8	24.5	24.2	24.2
Turning Circle – Corner SAE Carry	mm	17 261	17 212	17 326	17 262	17 217	17 236
	ft	56.6	56.5	56.8	56.6	56.5	56.5
Rackback Angle At SAE Carry	degrees	50.0	50.1	50.0	50.0	50.0	50.0
Full Dump At Max Lift	degrees	-49.8	-49.8	-49.8	-49.8	-49.8	-49.8
Tipping Load, Rigid Tires – Straight	kg	36 213	36 574	35 289	35 756	35 977	34 861
	lb	79,835	80,632	77,799	78,828	79,315	76,855
At Operating Weight (Articulated 35°)	kg	32 452	32 805	31 541	32 000	32 213	31 100
	lb	71,543	72,323	69,536	70,548	71,018	68,564
Tipping Load, Tire Squash – Straight	kg	34 036	34 416	33 134	33 625	33 857	32 752
	lb	75,037	75,875	73,049	74,129	74,643	72,205
At Operating Weight (Articulated 35°)	kg	29 170	29 549	28 286	28 776	29 007	27 907
	lb	64,309	65,144	62,360	63,441	63,949	61,525
Breakout Force SAE Rated	kg	45 673	48 330	38 726	41 108	42 871	42 038
	lb	100,691	106,550	85,377	90,627	94,515	92,679
Operating Weight (Notes A&B)	kg	52 196	51 943	52 778	52 441	52 310	53 294
	lb	115,073	114,516	116,356	115,613	115,325	117,494
Weight Distribution At SAE Carry Front	kg	28 375	27 944	29 464	28 877	28 646	30 279
	lb	62,555	61,607	64,958	63,663	63,154	66,753
Weight Distribution At SAE Carry Rear	kg	23 822	23 999	23 314	23 564	23 664	23 016
	lb	52,518	52,909	51,398	51,950	52,171	50,741
Loaded Machine Weight	kg	63 536	63 283	64 118	63 781	63 650	64 634
	lb	140,074	139,516	141,357	140,614	140,325	142,494
Weight Distribution At SAE Carry Front	kg	46 630	46 152	47 751	47 106	46 836	48 481
	lb	102,800	101,747	105,273	103,850	103,256	106,881
Weight Distribution At SAE Carry Rear	kg	16 907	17 132	16 368	16 676	16 814	16 154
	lb	37,273	37,769	36,084	36,764	37,069	35,613

*Static tipping loads and operating weights include full fluids and 80 kg (176 lb) operator.
**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with ISO 14397-2:2007.
Full compliance to ISO 14397-1:2007.

Operating Specifications – High Lift

For machines equipped with 35/65 R33 XLDD1 tires - see additional tables for other tire sizes.

		988 Std Lift Tires: 35/65 R33 XLDD1, PN: 339-8790 SLR: 978 mm					
Bucket Type		**General Purpose**		**Rock**			**HD Rock**
Ground Engaging Tool		**Adapters or BOCE**		**K130**			**K130**
Cutting Edge Type		**Straight**		**Spade**			**Spade**
Bucket Part Number (Group Level)		**634-0623**	**621-1500**	**615-5051**	**620-8133**	**620-8132**	**628-3419**
Rated Capacity	m^3	7.6	6.9	7.6	6.9	6.4	6.3
	yd^3	10.0	9.0	10.0	9.0	8.33	8.33
Struck Capacity ISO	m^3	6.5	5.5	6.5	5.5	5.0	5.0
	yd^3	8.5	7.2	8.5	7.2	6.5	6.5
Heaped Capacity ISO	m^3	7.5	7.0	7.5	7.0	6.5	6.5
	yd^3	9.8	9.2	9.8	9.2	8.5	8.5
Bucket Width – Overall	mm	3987	3987	4020	4020	4020	4080
	ft	13.1	13.1	13.2	13.2	13.2	13.4
Clearance At 45° Dump (Tooth Tip) (A)	mm	—	—	3787	3865	3920	3899
	ft	—	—	12.4	12.7	12.9	12.8
Clearance At 45° Dump (Edge) (A)	mm	4212	4275	3997	4074	4130	4117
	ft	13.8	14.0	13.1	13.4	13.5	13.5
Reach At 45° Dump (Tooth Tip) (F)	mm	—	—	2217	2139	2084	2085
	ft	—	—	7.3	7.0	6.8	6.8
Reach At 45° Dump (Edge) (F)	mm	1810	1740	2024	1947	1892	1904
	ft	5.9	5.7	6.6	6.4	6.2	6.2
Horizontal Arm and Level Bucket Reach (Edge)	mm	4006	3912	4310	4200	4122	4140
	ft	13.1	12.8	14.1	13.8	13.5	13.6
Digging Depth (Segment)	mm	219	224	220	220	220	220
	in	8.6	8.8	8.7	8.7	8.7	8.7
Overall Length – Bucket Level Ground (E)	mm	12 121	12 030	12 710	12 600	12 522	12 538
	ft	39.8	39.5	41.7	41.3	41.1	41.1
Overall Height (C)	mm	7982	7880	7952	7850	7776	7776
	ft	26.2	25.9	26.1	25.8	25.5	25.5
Turning Circle – Corner SAE Carry	mm	17 595	17 545	17 663	17 598	17 553	17 573
	ft	57.7	57.6	57.9	57.7	57.6	57.7
Rackback Angle At SAE Carry	degrees	52.8	52.9	52.9	52.9	52.9	52.9
Full Dump At Max Lift	degrees	-50.1	-50.1	-50.1	-50.1	-50.1	-50.1
Tipping Load, Rigid Tires – Straight	kg	34 130	34 460	33 248	33 679	33 875	32 772
	lb	75,243	75,971	73,300	74,248	74,681	72,251
At Operating Weight (Articulated 35°)	kg	30 435	30 760	29 566	29 991	30 182	29 082
	lb	67,099	67,815	65,181	66,118	66,540	64,114
Tipping Load, Tire Squash – Straight	kg	32 230	32 579	31 365	31 818	32 027	30 933
	lb	71,055	71,824	69,148	70,147	70,607	68,195
At Operating Weight (Articulated 35°)	kg	27 426	27 777	26 577	27 035	27 244	26 155
	lb	60,464	61,238	58,592	59,602	60,063	57,662
Lift Capacity – Bucket Level Ground	kg	31 921	32 750	29 588	30 520	31 104	30 216
	lb	60,464	61,239	58,592	59,601	60,062	57,661
Breakout Force SAE Rated	kg	42 053	44 524	35 613	37 829	39 463	38 661
	lb	92,710	98,158	78,513	83,398	87,002	85,233
Operating Weight (Notes A&B)	kg	53 668	53 415	54 250	53 913	53 782	54 766
	lb	118,318	117,761	119,602	118,859	118,570	120,739
Weight Distribution At SAE Carry Front	kg	28 921	28 471	30 057	29 444	29 204	30 922
	lb	63,761	62,768	66,264	64,913	64,383	68,172
Weight Distribution At SAE Carry Rear	kg	24 747	24 944	24 193	24 469	24 579	23 844
	lb	54,558	54,993	53,337	53,945	54,187	52,567
Loaded Machine Weight	kg	65 008	64 755	65 590	65 253	65 122	66 106
	lb	143,319	142,761	144,602	143,859	143,570	145,740
Weight Distribution at SAE Carry Front	kg	48 120	47 628	49 288	48 625	48 350	50 082
	lb	106,087	105,002	108,662	107,199	106,594	110,411
Weight Distribution at SAE Carry Rear	kg	16 888	17 127	16 302	16 629	16 772	16 025
	lb	37,232	37,759	35,940	36,660	36,976	35,329

*Static tipping loads and operating weights include full fluids and 80 kg (176 lb) operator.
**Measured 100 mm (4") behind tip of cutting edge with bucket hinge pin as pivot point in accordance with ISO 14397-2:2007.
Full compliance to ISO 14397-1:2007.

988 Wheel Loader Standard and Optional Equipment

Standard and Optional Equipment

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

	Standard	Optional
ELECTRICAL		
Alarm, backup	✓	
Alternator, single 150 amp	✓	
Auxiliary jump start receptacle	✓	
Batteries, dry	✓	
Converter, 10/15 amp, 24V to 12V	✓	
Hazardous voltage lamp	✓	
Lighting system (LED work lights, access and service platform lighting)	✓	
Lighting system underhood service lighting		✓
Starting and charging system, 24V	✓	
Starter lockout in bumper	✓	
Transmission lockout in bumper	✓	
OPERATOR ENVIRONMENT		
Air conditioner	✓	
Cat Vision, rear-vision camera system	✓	
Cat Production Measurement ready	✓	
Cat Production Measurement		✓
Cat Detect, object detection system		✓
Cab, sound suppressed and pressurized, integrated rollover protective structure/falling objects protective structure (ROPS/FOPS), radio ready for entertainment, includes antenna, speakers and converter (12-volt 5-amp) and power port	✓	
Cab precleaner		✓
Configurable external seat belt beacon indicator		✓
Configurable Operator IDs	✓	
Controls, lift and tilt function	✓	
Economy mode	✓	
3rd function valve controls		✓
Graphical information display, displays real time operating information, performs calibrations, and customizes operator settings	✓	
Instrumentation, gauges: coolant temperature, engine hour meter, hydraulic oil temperature, powertrain oil temperature	✓	
Heater, defroster	✓	
Horn, electric	✓	
LED warning strobe		✓
Light, cab, dome	✓	
Lights, directional	✓	
Lunchbox, beverage holders	✓	
Machine configurable overload protection	✓	
Mirrors, rearview (externally mounted)	✓	
Mirrors, handrail mounted		✓
Mirrors, heated		✓
Radio, AM/FM/CD/MP3 Bluetooth®	✓	
Radio, CB ready	✓	

	Standard	Optional
OPERATOR ENVIRONMENT (CONTINUED)		
Rimpull Control System (RCS)	✓	
Seat, deluxe	✓	
Seat, premium plus containing forced air heating and cooling, 2-way thigh adjustment, power lumbar and back bolster adjustment, ride stiffness, dynamic end dampening and leather finish		✓
Seat belt minder	✓	
Seat belt, retractable, 76 mm (3 in) wide	✓	
Steering and Transmission Integrated Control (STIC™) system	✓	
UV glass	✓	
Vital Information Management System (VIMS™) with graphical information display: external data port	✓	
Wet-arm wipers/washers (front and rear) – intermittent front and rear wipers	✓	
Window pull-down visor		✓
Operator presence	✓	
Slope indication	✓	
POWERTRAIN		
Premixed 50% concentration of extended life coolant with freeze protection to -34°C (-29°F)	✓	
Antifreeze -50°C (-58°F)		✓
Automatic retarding controls	✓	
Brakes, oil-cooled, multi-disc, service/ secondary	✓	
Case drain screens	✓	
Crankcase guard		✓
Electro hydraulic parking brake	✓	
Engine brake		✓
Engine, C18 Mechanically Actuated Electronic Unit Injection (MEUI™) diesel, turbocharged/ aftercooled	✓	
Engine oil change system, high speed, Wiggins		✓
Ground-level engine shutdown switch	✓	
High ambient cooling – software		✓
Turbine precleaner, engine air intake	✓	
Turbine precleaner, engine air intake dual stage	✓	
Radiator, Aluminum Modular Radiator (AMR)	✓	
Starting aid, ether, automatic	✓	
Throttle lock, electronic	✓	
Torque Converter, Impeller Clutch (ICTC) with Lock-Up Clutch (LUC), rimpull control system	✓	
Transmission, planetary power shift, 4F/3R electronic control	✓	
Manual switch and automatic fuel priming	✓	

Standard and Optional Equipment

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

	Standard	Optional
ADDITIONAL EQUIPMENT		
Operator assist ready	✓	
Operator assist, tire slip prevention, auto set tires, and lift stall prevention		✓
Operator coaching		✓
Cold weather package: additional starter and 2 batteries, engine block heater 120V or 240V, heated fuel lines		✓
Base machine price includes a rim allowance	✓	
Cat Clean Emission Module (CEM)	✓	
Couplings, Cat O-ring face seals	✓	
Doors, service access (locking)	✓	
Ecology drains for engine, radiator, hydraulic tank	✓	
Fuel tank, 712L (188 gal)	✓	
Fast fill fuel system (Shaw-Aero)		✓
Front and rear roading fenders		✓
Hitch, drawbar with pin	✓	
Hoses, Cat XT™	✓	

	Standard	Optional
ADDITIONAL EQUIPMENT (CONTINUED)		
Hydraulic, steering and brake filtration/ screening system	✓	
Additional counterweight		✓
Hydraulically driven demand fan	✓	
Oil sampling valves	✓	
Rear access to cab and service platform	✓	
Steering, load sensing	✓	
Tire pressure monitoring system		✓
Toe kicks	✓	
Vandalism protection caplocks	✓	
Wheel chocks		✓
OTHER OPTIONAL CONFIGURATIONS		
Aggregate handler		✓
Millyard		✓
Steel mill		✓
Block handler		✓

988 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® C18 engine meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
- Cat 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

  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.*

Air Conditioning System

- The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a or R1234yf. See the label or instruction manual for identification of the gas.
- If equipped with R134a (Global Warming Potential = 1430), the system contains 1.8 kg (3.9 lb) of refrigerant which has a CO_2 equivalent of 2.574 metric tonnes (2.837 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%
  - Cadmium < 0.01%
  - Chromium < 0.01%
  - Lead < 0.01%

Sound Performance – Tier 4 Final/Stage V

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	111 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)**

Sound Performance – Tier 3/Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	112 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)**

*For machines in European Union countries and in countries that adopt the "EU Directives" and "UK Directives."

**European Union Directive "2000/14/EC" as amended by "2005/88/EC" and UK Noise Regulation 2001 No. 1701.

- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. 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.

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.
  - Economy mode helps reduce fuel consumption
  - Increased hydraulic speed and faster cycle times for decreased idle, decreased fuel burn, and increased efficiency
  - Reduce fuel burn while idling with engine idle shutdown
  - Boost productivity with optional technologies like operator coaching and new operator assist features, including tire slip prevention and auto set tires

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	73.32%
Iron	3.21%
Nonferrous Metal	1.39%
Mixed Metal	0.00%
Mixed-Metal and Nonmetal	4.59%
Plastic	0.13%
Rubber	0.12%
Mixed Nonmetallic	0.00%
Fluid	0.25%
Other	2.35%
Uncategorized	14.64%
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 – 96%

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Block Handler

Block handler applications demand the additional performance, productivity, and safety that Cat® wheel loaders deliver.

Proven Reliability

- Cat C18 engine is built and tested to meet your most demanding applications.
- Cat Torque Converter with Lock-Up Clutch helps reduce torque converter losses and lowers system heat.
- Maximum responsiveness with Steering and Transmission Integrated Control (STIC™).
- Moves more material efficiently with improved power and control.
- Durable construction withstands the toughest loading conditions and multiple lifecycles.

Durability

- World-class transmission for long life and consistent, smooth shifting.
- Advanced Productivity Electronic Control Strategy (APECS) transmission controls for optimal momentum on grades.
- Positive Flow Control (PFC) hydraulic system helps increase efficiency and responsiveness with consistent performance.
- Advanced filtration system for extended performance and reliability of the hydraulic system.
- Impeller Clutch Torque Converter (ICTC) helps minimize tire spin by allowing torque to adjust to underfoot conditions.

Achieve Greater Productivity

- Improved visibility over the top of the linkage.
- Operators can now check tire pressure during operation with any change sending a fault code to VisionLink®, preventing premature tire failure.
- Convenient, responsive, electro-hydraulic controls help increase operator confidence.

Superior Fuel Efficiency

- Economy mode helps optimize engine speed control for reduced fuel consumption no matter if operating in manual throttle or throttle lock.
- Flow sharing hydraulics provide full flow at reduced engine rpm.
- Fully integrated electronic engine controls help make your fuel go farther.
- Engine idle shutdown for less fuel used while idling.

Increase Productivity and Efficiency with Integrated Technologies

- Cat Technologies developed to monitor, manage, and enhance your jobsite operations.
- Cat Detect enhances awareness of the environment around working equipment and provides alerts to help keep people and assets safe on the jobsite.
- Product Link™ wirelessly connects you to your equipment, giving you access to essential information you need to know to run your business.
- Gain valuable insight into how your machine or fleet is performing.
- Optional advanced productivity plan provides comprehensive actionable information to help you manage and improve the productivity and profitability of your operations.

Designed for Block Handling

- Delivers stability and durability with an optimized counterweight for block handling applications.
- A high rimpull powertrain features a torque converter and transmission specially designed for this application to maximize rimpull.
- An additional hydraulic valve with the quick coupler allows the operator to switch work tools and immediately lock the work tool during load and carry applications.
- Purpose-built tilt and lift cylinders on the linkage help improve load control and ensure safe and long lasting operation.
- Ride control acts as a shock absorber, providing the operator with a smoother ride over rough terrain.

988 Block Handler Specifications

Engine

Engine Model	Cat® C18	
Rated Speed	1,700 rpm	
Peak Power Speed	1,500 rpm	
Engine (ISO 14396:2002)	432 kW	580 hp
Gross (SAE J1995:2014)	439 kW	588 hp
Net Power (SAE J1349:2011)	403 kW	541 hp
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1,105 in^3
Peak Torque @ 1,200 rpm	2852 N·m	2,104 lbf-ft
Torque Rise	58%	

Three engine emission options are available:

1. Meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
2. Meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
3. Meets China Nonroad Stage IV emission standards.

• 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.

Operating Specifications

Operating Weight	61 508 kg	135,602 lb

Transmission

Transmission Type	Cat planetary power shift	
Forward 1	5.8 km/h	3.6 mph
Forward 2	10.3 km/h	4.5 mph
Forward 3	18.3 km/h	11.4 mph
Forward 4	30.5 km/h	19 mph
Reverse 1	6.6 km/h	4.1 mph
Reverse 2	11.8 km/h	7.3 mph
Reverse 3	20.8 km/h	13 mph
Direct Drive Forward 1	Lock-up disabled	
Direct Drive Forward 2	10.8 km/h	6.7 mph
Direct Drive Forward 3	19.2 km/h	11.9 mph
Direct Drive Forward 4	34 km/h	21 mph
Direct Drive Reverse 1	6.9 km/h	4.3 mph
Direct Drive Reverse 2	12.4 km/h	7.7 mph
Direct Drive Reverse 3	22 km/h	13.7 mph

• Travel speeds based on 35/65-R33 tire.

Hydraulic System – Lift/Tilt

Lift/Tilt System – Circuit	Pilot operated – EH control, flow sharing	
Lift/Tilt System	Variable displacement piston	
Maximum Flow at 1,400-1,860 rpm	580 L/min	153 gal/min
Relief Valve Setting – Lift/Tilt	32 800 kPa	4,757 psi
Cylinders, Double Acting: Lift, Bore and Stroke	235 mm × 976 mm	9.3 in × 38.4 in
Cylinders, Double Acting: Tilt, Bore and Stroke	291 mm × 671 mm	11.5 in × 26.4 in
Pilot System	Variable displacement piston	
Maximum Flow @ 1,700 rpm	52 L/min	13.7 gal/min
Relief Valve Setting	3800 kPa	551 psi

Hydraulic Cycle Time

Rackback	4.5 Seconds
Raise	8.0 Seconds
Dump	2.2 Seconds
Lower Float Down	3.5 Seconds
Total Hydraulic Cycle Time (empty)	18.2 Seconds

Hydraulic System – Steering

Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Piston, variable displacement	
Maximum Flow	280 L/min	74 gal/min
Relief Valve Setting – Steering	32 000 kPa	4,641 psi
Total Steering Angle	86°	
Steering Cycle Time (high idle)	3.4 sec	
Steering Cycle Time (low idle)	5.6 sec	

Service Refill Capacities

Fuel Tank	712 L	188.1 gal
Cooling System	120 L	31.7 gal
Crankcase	60 L	15.9 gal
Diesel Exhaust Fluid Tank	33 L	8.7 gal
Transmission	92 L	24.3 gal
Differentials and Final Drives – Front	186 L	49.1 gal
Differentials and Final Drives – Rear	186 L	49.1 gal
Hydraulic System Factory Fill	475 L	125.5 gal
Hydraulic System (tank only)	240 L	63.4 gal

- All non-road Tier 4 Final/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 (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.
- 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).**
- For pre-Tier 4 engines: Cat engines 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.

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

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

Axles

Front	Fixed
Rear	Trunnion
Oscillation Angle	13°

Brakes

Brakes	ISO 3450:2011

Sound Performance – Tier 4 Final/Stage V

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	111 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)**

Sound Performance – Tier 3/Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	112 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)**

*For machines in European Union countries and in countries that adopt the "EU Directives" and "UK Directives."

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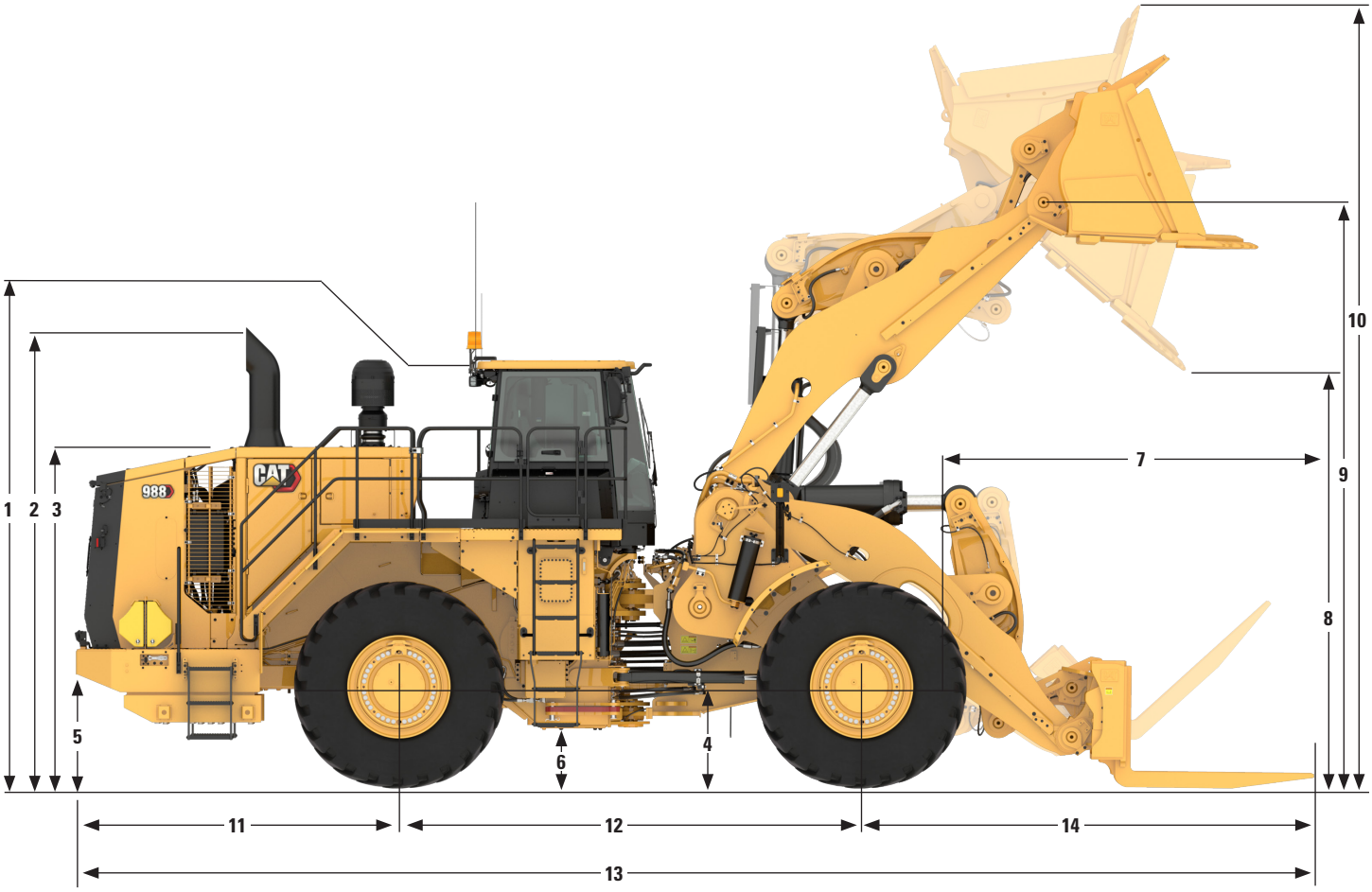
- The operator sound pressure level was measured according to ISO 6396:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- Hearing protection may be needed when the machine is operated with a cab that is not properly maintained or when the doors or windows are open for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

988 Block Handler Specifications

Dimensions

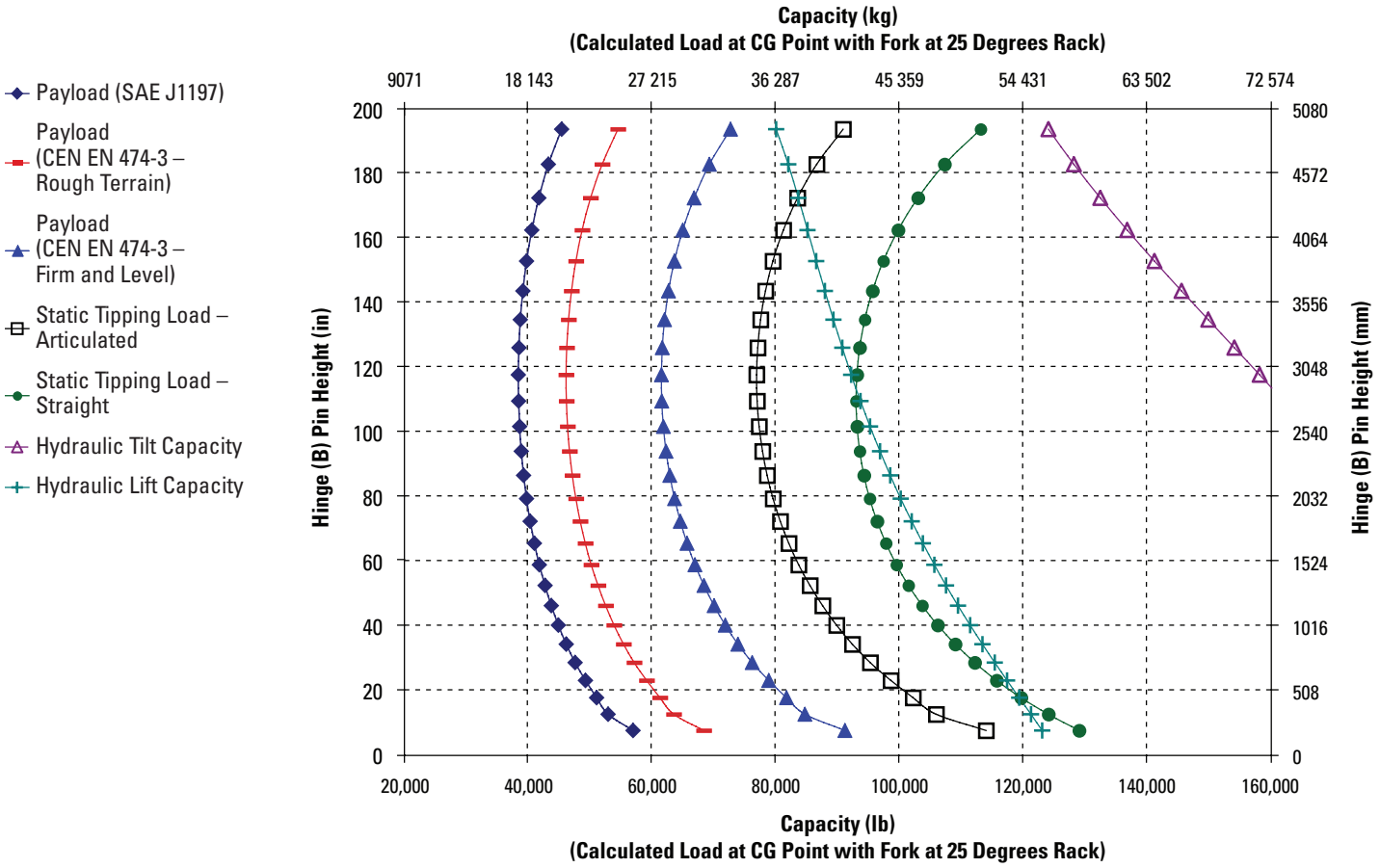
All dimensions are approximate.



		Quick Coupler and 6.9 m³ (9.0 yd³) Bucket		Quick Coupler and Fork	
1	Ground to Top of ROPS	4187 mm	13.7 ft	4214 mm	13.8 ft
2	Ground to Top of Exhaust Stacks	4498 mm	14.8 ft	4221 mm	13.8 ft
3	Ground to Top of Hood	3334 mm	10.9 ft	3334 mm	10.9 ft
4	Ground to Center of Front Axle	978 mm	3.2 ft	978 mm	3.2 ft
5	Ground to Bumper Clearance	933 mm	3.1 ft	933 mm	3.1 ft
6	Ground to Lower Hitch Clearance	568 mm	1.9 ft	568 mm	1.9 ft
7	Reach at Maximum Lift	2765 mm	9.1 ft	—	—
8	Clearance at Maximum Lift	3449 mm	11.3 ft	—	—
9	B-Pin Height at Maximum Lift	4918 mm	16.1 ft	4918 mm	16.1 ft
10	Maximum Overall Height, Bucket Raised	6815 mm	22.4 ft	—	—
11	Rear Axle Centerline to Bumper	3187 mm	10.5 ft	3187 mm	10.5 ft
12	Wheelbase	4550 mm	14.9 ft	4550 mm	14.9 ft
13	Maximum Overall Length with Forks on the Ground	11 938 mm	39.2 ft	12 149 mm	39.9 ft
14	Front Axle Centerline to Bucket Tip	4201 mm	13.8 ft	4467 mm	14.7 ft

Load Capacity Curves

L5 Tires, Fork at 25 degree Rack Angle, 1810 mm (71") Tine, Block Handler Quick Coupler and Block Handler Fork.



NOTE:

Static tipping loads and operating weight are based on the following loader configuration: L5 Bridgestone bias tires, air conditioning, ride control, powertrain guard, full fluids, fuel tank, coolant, lubricants, and operator.

Specifications and ratings conform to the following standards: SAE* J1197, SAE J732, CEN** EN 474-3.

The rated operating load for a loader equipped with a pallet fork is determined by:

SAE J1197: 50% of full turn static tipping load or hydraulic limit.

CEN EN 474-3: 60% of full turn static tipping load on rough terrain or hydraulic limit.

CEN EN 474-3: 80% of full turn static tipping load on firm and level ground or hydraulic limit.

*SAE – Society of Automotive Engineers

**CEN – European Committee for Standardization

988 Block Handler Specifications

Operating Specifications

For machines equipped with Bridgestone 42 PR bias tires with 6.55 bar (95 psi) pressure.

		988 Block Handler Tires: 35/65-R33 SLR: 978 mm		
		Block Handler		
Bucket Type		**Rock**	**Rock**	**Fork**
Ground Engaging Tool		**K130**	**K131**	**–**
Cutting Edge Type		**Spade**	**Spade**	**–**
Bucket Part Number		**418-0080**	**418-0090**	**418-0070**
Struck Capacity	m^3	5.5	5.2	–
	yd^3	7.2	6.8	–
Heaped Capacity (Rated)	m^3	7	6.6	–
	yd^3	9.2	8.6	–
Bucket Width	mm	3940	4020	–
	ft	12.9	13.2	–
Dump Clearance at Full Lift and Full Dump Angle (Segment)	mm	3449	3316	–
	ft	11.3	10.9	–
Dump Clearance at Full Lift and Full Dump Angle (with Teeth)	mm	–	3144	–
	ft	–	3316	–
Reach at Lift and Full Dump Angle (Segment)	mm	2765	2910	–
	ft	9.1	9.5	–
Reach at Lift and Full Dump Angle (with Teeth)	mm	–	3132	–
	ft	–	3316	–
Reach with Lift Arms Horizontal and Bucket Level (Segment or Teeth)	mm	3926	4399	–
	ft	12.9	14.4	–
Digging Depth (Segment)	mm	150	185	–
	in	5.9	7.3	–
Overall Length (Bucket Level Ground)	mm	11 938	12 436	12 149
	ft	39.2	40.8	39.9
Overall Height with Bucket at Full Raise	mm	6815	6815	–
	ft	22.4	22.4	–
Loader Clearance Turning Radius (SAE Carry)	mm	8714	8834	7789
	ft	28.6	29.0	25.6
Full Dump Angle	degrees	–32	–32	–
Static Tipping Load – Straight (Rigid Tire)	kg	52 887	51 384	43 217
	lb	116,597	113,281	95,277
Static Tipping Load – Straight (Tire Squash)	kg	50 417	48 893	42 176
	lb	111,150	107,790	92,982
Static Tipping Load – Full Turn (Articulated 35°) (Rigid Tire)	kg	46 933	45 488	38 471
	lb	103,470	100,283	84,815
Static Tipping Load – Full Turn (Articulated 35°) (Tire Squash)	kg	42 719	42 166	35 513
	lb	94,179	92,960	78,293
Static Tipping Load – Full Turn (Articulated 43°) (Rigid Tire)	kg	44 043	42 625	36 168
	lb	97,098	93,972	79,736
Static Tipping Load – Full Turn (Articulated 43°) (Tire Squash)	kg	39 384	37 963	32 945
	lb	86,827	83,694	72,631
Breakout Force	kN	432	388	–
	lbf	97,093	87,201	–
Operating Weight	kg	63 381	64 106	61 508
	lb	139,730	141,329	135,602
Weight Distribution at SAE Carry (Unloaded)				
Front	kg	27 312	28 732	24 338
	lb	60,212	63,342	53,656
Rear	kg	36 069	35 374	37 170
	lb	79,518	77,987	81,946

25 degree fork angle for tipping loads with 418-0070 forks.

Standard and Optional Equipment

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

	Standard	Optional
ELECTRICAL		
Alarm, backup	✓	
Alternator, single 150 amp	✓	
Auxiliary jump start receptacle	✓	
Batteries, dry	✓	
Converter, 10/15 amp, 24V to 12V	✓	
Hazardous voltage lamp	✓	
Lighting system (LED work lights, access and service platform lighting)	✓	
Lighting system underhood service lighting		✓
Starting and charging system, 24V	✓	
Starter lockout in bumper	✓	
Transmission lockout in bumper	✓	
OPERATOR ENVIRONMENT		
Air conditioner	✓	
Cat Vision, rear-vision camera system	✓	
Cat Detect, object detection system		✓
Cab, sound suppressed and pressurized, integrated rollover protective structure/falling objects protective structure (ROPS/FOPS), radio ready for entertainment, includes antenna, speakers and converter (12-volt 5-amp) and power port	✓	
Cab precleaner		✓
Configurable external seat belt beacon indicator		✓
Configurable Operator IDs	✓	
Controls, lift and tilt function	✓	
Economy mode	✓	
3rd function valve controls		✓
Graphical information display, displays real time operating information, performs calibrations, and customizes operator settings	✓	
Instrumentation, gauges: coolant temperature, engine hour meter, hydraulic oil temperature, powertrain oil temperature	✓	
Heater, defroster	✓	
Horn, electric	✓	
LED warning strobe		✓
Light, cab, dome	✓	
Lights, directional	✓	
Lunchbox, beverage holders	✓	
Machine configurable overload protection	✓	
Mirrors, rearview (externally mounted)	✓	
Mirrors, handrail mounted		✓
Mirrors, heated		✓
Radio, AM/FM/CD/MP3 Bluetooth®	✓	
Radio, CB ready	✓	

	Standard	Optional
OPERATOR ENVIRONMENT (CONTINUED)		
Rimpull Control System (RCS)	✓	
Seat, deluxe	✓	
Seat, premium plus containing forced air heating and cooling, 2-way thigh adjustment, power lumbar and back bolster adjustment, ride stiffness, dynamic end dampening and leather finish		✓
Seat belt minder	✓	
Seat belt, retractable, 76 mm (3 in) wide	✓	
Steering and Transmission Integrated Control (STIC™) system	✓	
UV glass	✓	
Vital Information Management System (VIMS™) with graphical information display: external data port	✓	
Wet-arm wipers/washers (front and rear) – intermittent front and rear wipers	✓	
Window pull-down visor		✓
Operator presence	✓	
Slope indication	✓	
POWERTRAIN		
Premixed 50% concentration of extended life coolant with freeze protection to -34°C (-29°F)	✓	
Antifreeze -50°C (-58°F)		✓
Automatic retarding controls for operating on grades	✓	
Brakes, oil-cooled, multi-disc, service/secondary	✓	
Case drain screens	✓	
Crankcase guard		✓
Electro hydraulic parking brake	✓	
Engine brake		✓
Engine, C18 Mechanically Actuated Electronic Unit Injection (MEUI™) diesel, turbocharged/aftercooled	✓	
Engine oil change system, high speed, Wiggins		✓
Ground-level engine shutdown switch	✓	
High ambient cooling – software		✓
Turbine precleaner, engine air intake	✓	
Turbine precleaner, engine air intake dual stage	✓	
Radiator, Aluminum Modular Radiator (AMR)	✓	
Starting aid, ether, automatic	✓	
Throttle lock, electronic	✓	
Torque Converter, Impeller Clutch (ICTC) with Lock-Up Clutch (LUC), rimpull control system	✓	
Transmission, planetary power shift, 4F/3R electronic control	✓	
Manual switch and automatic fuel priming	✓	

988 Block Handler Standard & Optional Equipment

Standard and Optional Equipment

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

ADDITIONAL EQUIPMENT	Standard	Optional
Autolube with auto shutoff		✓
Automatic bucket lift kickout/positioner	✓	
Cold weather package: additional starter and 2 batteries, engine block heater 120V or 240V, heated fuel lines		✓
Base machine price includes a rim allowance	✓	
Cat Clean Emission Module (CEM)	✓	
Couplings, Cat O-ring face seals	✓	
Doors, service access (locking)	✓	
Ecology drains for engine, radiator, hydraulic tank	✓	
Fuel tank, 712L (188 gal)	✓	
Fast fill fuel system (Shaw-Aero)		✓
Front and rear roading fenders		✓

ADDITIONAL EQUIPMENT (CONTINUED)	Standard	Optional
Hitch, drawbar with pin	✓	
Hoses, Cat XT™	✓	
Hydraulic, steering and brake filtration/ screening system	✓	
Load and carry counterweight		✓
Hydraulically driven demand fan	✓	
Oil sampling valves	✓	
Rear access to cab and service platform	✓	
Steering, load sensing	✓	
Tire pressure monitoring system		✓
Toe kicks	✓	
Vandalism protection caplocks	✓	
Wheel chocks		✓

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Millyard Arrangement

Millyard applications demand the additional performance, productivity, and safety that Cat® forestry wheel loaders deliver.

Proven Reliability

- Cat C18 engine is built and tested to meet your most demanding applications.
- Cat Torque Converter with Lock-Up Clutch helps eliminate torque converter losses and lowers system heat.
- Maximum responsiveness with Steering and Transmission Integrated Control (STIC™).
- Moves more material more efficiently with improved power and control.
- Durable construction withstands the toughest loading conditions and multiple lifecycles.

Durability

- Achieves long engine life and improved fuel efficiency with reduced high idle speed.
- Automatic retarder controls help maintain optimal speed on grade.
- One-piece castings help provide enhanced strength in key pin areas.
- Full box section rear frame helps resist torsional shock and twisting forces.
- Durable construction withstands the toughest operating conditions and multiple lifecycles.

Achieve Greater Productivity

- Unload a typical full-length log truck in a single pass with the larger lift and tilt cylinders and a unique tilt lever to maximize linkage force.
- Designed with 20% more lift capacity and 26% more tilt capacity over the standard 988.
- Superior acceleration, smoother directional shifts, and reduced travel times.
- Maximum responsiveness with Steering and Integrated Control (STIC™).
- Convenient, responsive electro-hydraulic controls increase operator productivity.
- Purpose-built lift arm with lowered cross member to help increase visibility to the tips of the forks, helping to increase the speed when lining up the load and reduce operator movements to see the forks.

Superior Fuel Efficiency

- Continuously variable speed control up to maximum ground speed.
- Positive Flow Control (PFC) hydraulic system helps increase efficiency and attachment responsiveness with consistent performance.
- Economy mode for reduced rated engine speed and to help fuel consumption.
- Fully integrated electronic engine controls help make your fuel go farther.
- Engine idle shutdown for less fuel used while idling.
- Flow sharing hydraulics provide full flow at reduced engine rpm.
- Increased hydraulic speed and fast cycle times help decrease idle and fuel burn with optimal efficiency.

Safety Features

- Achieve precise positioning in tight areas with 43 degrees of steering articulation.
- Precise machine control by load-sensing hydraulic steering system.
- Reduced stairway angles and standard stairway lighting help provide lower risk of slips, trips, and falls due to better visibility of the steps and stairway.
- Computerized monitoring system with warning indicators.
- Standard Cat Vision enhances visibility behind the machine, helping you work safely and confidently.
- Pressurized cabin with filtered air and reduced sound levels.

Reduced Maintenance Time and Costs

- Long life, rebuildability, and high resale value with low maintenance costs.
- Grouped service points and swing-out engine compartment service doors provide easy access to critical daily service checks.
- Ecology drains to prevent spills.
- Reduced waste with maintenance-free batteries.
- Operators can now monitor tire pressure during operation with any change sending a fault code to VisionLink®, helping to prevent premature tire failure.
- Swing-out fan radiator design for easier service in high-debris millyard applications, helping reduce maintenance and service downtime. Auto reversing fan system to help dislodge debris and keep air flowing across the radiator cores.

Easy, Comfortable Operator Environment

- World-class operator comfort and ergonomics.
- Cat Premium Plus seat with standard features, including leather finish, forced air heating and cooling, two-way thigh adjustment, power lumbar and back bolster adjustment, and dynamic end dampening to provide total comfort throughout the workday.
- Easy-to-reach levers and seat-mounted implement pod to reduce fatigue.
- Reduced vibrations from isolated cab mounts and seat air suspension.

988 Millyard Arrangement Specifications

Engine

Engine Model	Cat® C18	
Rated Speed	1,700 rpm	
Peak Power Speed	1,500 rpm	
Engine (ISO 14396:2002)	432 kW	580 hp
Gross (SAE J1995:2014)	439 kW	588 hp
Net Power (SAE J1349:2011)	403 kW	541 hp
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1,105 in^3
Peak Torque @ 1,200 rpm	2852 N·m	2,104 lb-ft
Torque Rise	58%	

Three engine emission options are available:

1. Meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
2. Meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
3. Meets China Nonroad Stage IV emission standards.

- 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.

Operating Specifications

Operating Weight	63 619 kg	139,962 lb
Tipping Load:		
Straight	35 500 kg	78,100 lb
Articulated 37°	29 375 kg	64,625 lb

Transmission

Transmission Type	Cat planetary power shift	
Forward 1	6.5 km/h	4.0 mph
Forward 2	11.6 km/h	7.2 mph
Forward 3	20.4 km/h	12.7 mph
Forward 4	34.7 km/h	21.6 mph
Reverse 1	7.5 km/h	4.7 mph
Reverse 2	13.3 km/h	8.3 mph
Reverse 3	23.2 km/h	14.4 mph
Direct Drive Forward 1	Lock-up disabled	
Direct Drive Forward 2	12.5 km/h	7.8 mph
Direct Drive Forward 3	22.3 km/h	13.9 mph
Direct Drive Forward 4	39.3 km/h	24.4 mph
Direct Drive Reverse 1	8.0 km/h	5.0 mph
Direct Drive Reverse 2	14.3 km/h	8.9 mph
Direct Drive Reverse 3	25.5 km/h	15.8 mph

- Travel speeds based on 35/65-R33 tire.

Hydraulic System – Lift/Tilt

Lift/Tilt System – Circuit	EH – positive flow control, flow sharing	
Lift/Tilt System	Variable displacement piston	
Maximum Flow at 1,400-1,860 rpm	580 L/min	153 gal/min
Relief Valve Setting – Lift/Tilt	32 000 kPa	4,641 psi
Cylinders, Double Acting: Lift, Bore and Stroke	235 mm × 976 mm	9.25 in × 38.4 in
Cylinders, Double Acting: Tilt, Bore and Stroke	292 mm × 671 mm	11.5 in × 26.4 in
Pilot System	Variable displacement piston	
Maximum Flow	52 L/min	13.7 gal/min
Relief Valve Setting	4000 kPa	580 psi

Hydraulic System – Steering

Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Piston, variable displacement	
Maximum Flow	270 L/mim	71.3 gal/min
Relief Valve Setting – Steering	30 000 kPa	4,351 psi
Total Steering Angle	74°	
Steering Cycle Time (high idle)	3.4 sec	
Steering Cycle Time (low idle)	5.6 sec	

Service Refill Capacities

Fuel Tank	712 L	188 gal
Cooling System	120 L	31.7 gal
Crankcase	60 L	15.9 gal
Diesel Exhaust Fluid Tank	33 L	8.7 gal
Transmission	92 L	24.3 gal
Differentials and Final Drives – Front	186 L	49.1 gal
Differentials and Final Drives – Rear	186 L	49.1 gal
Hydraulic System Factory Fill	475 L	125.5 gal
Hydraulic System (tank only)	240 L	63.4 gal

- All non-road Tier 4 Final/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 (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.
- 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).**
- For pre-Tier 4 engines: Cat engines 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.

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

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

Axles

Front	Fixed
Rear	Trunnion
Oscillation Angle	13°

Brakes

Brakes	ISO 3450:2011

Sound Performance – Tier 4 Final/Stage V

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	111 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)**

Sound Performance – Tier 3/Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	112 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)**

*For machines in European Union countries and in countries that adopt the "EU Directives" and "UK Directives."

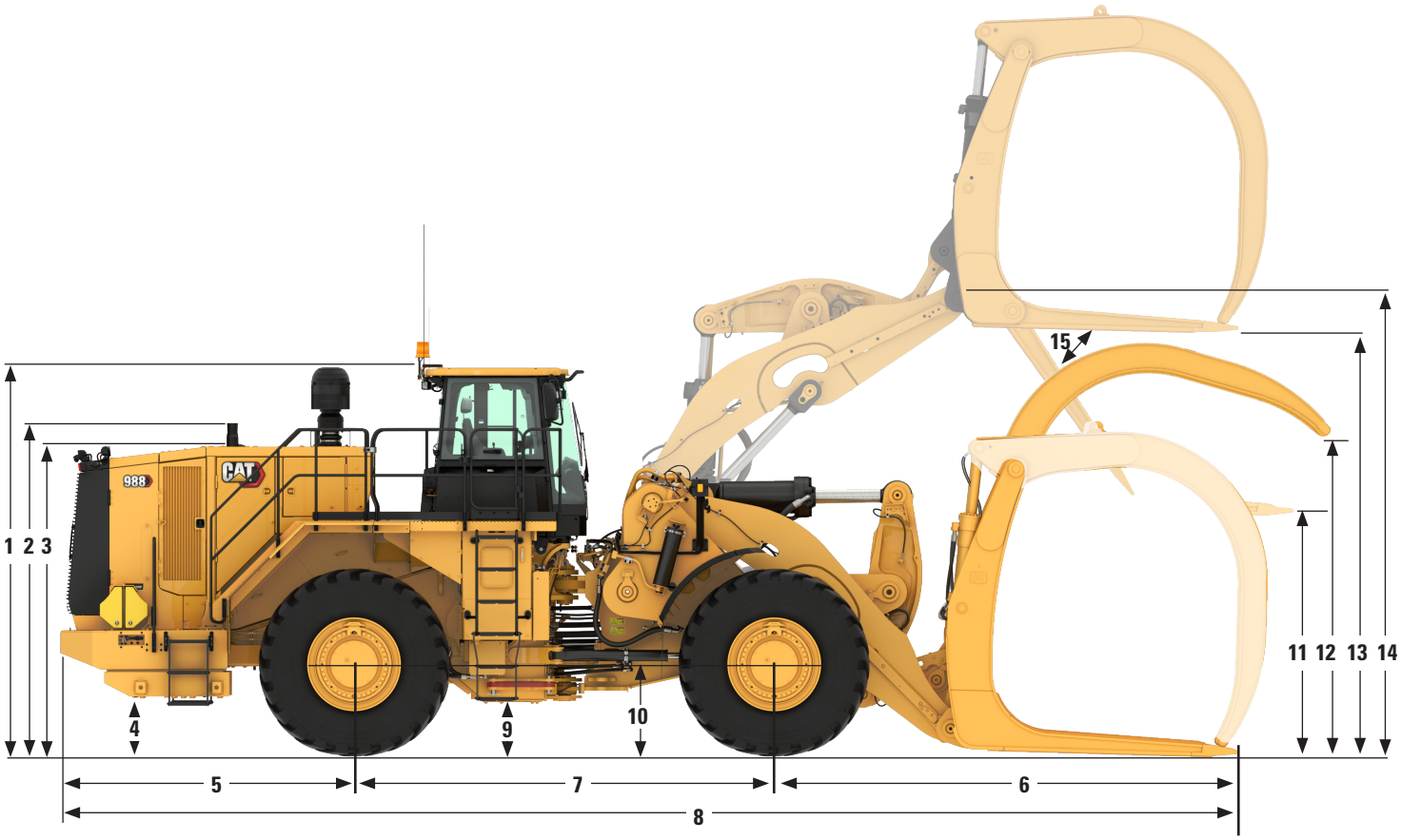
**European Union Directive "2000/14/EC" as amended by "2005/88/EC" and UK Noise Regulation 2001 No. 1701.

- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. 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.

988 Millyard Arrangement Specifications

Dimensions

All dimensions are approximate.



		Millyard Linkage	
1	Ground to Top of ROPS	4221 mm	13.8 ft
2	Ground to Top of Exhaust Stack	4214 mm	13.8 ft
3	Ground to Top of Hood	3334 mm	10.9 ft
4	Ground to Bumper Clearance	933 mm	3.1 ft
5	Rear Axle Centerline to Bumper	3187 mm	10.5 ft
6	Front Axle Centerline to Fork Tip	4765 mm	15.6 ft
7	Wheelbase	4550 mm	14.9 ft
8	Maximum Overall Length	12 502 mm	41.0 ft
9	Ground to Lower Hitch Clearance	568 mm	1.9 ft
10	Ground to Center of Front Axle	978 mm	3.2 ft
11	Fork Height with Level Arms	2468 mm	8.1 ft
12	Fork Top Clamp Opening	3741 mm	12.3 ft
13	Fork Height at Maximum Lift	4660 mm	15.3 ft
14	Hinge Pin Height at Maximum Lift	4918 mm	16.1 ft
15	Dump Angle at Maximum Lift	39.4 degrees	

Standard and Optional Equipment

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

	Standard	Optional
ELECTRICAL		
Alarm, backup	✓	
Alternator, single 150 amp	✓	
Auxiliary jump start receptacle	✓	
Batteries, dry	✓	
Converter, 10/15 amp, 24V to 12V	✓	
Hazardous voltage lamp	✓	
Lighting system (LED work lights, access and service platform lighting)	✓	
Lighting system underhood service lighting		✓
Starting and charging system, 24V	✓	
Starter lockout in bumper	✓	
Transmission lockout in bumper	✓	
OPERATOR ENVIRONMENT		
Air conditioner	✓	
Cat Vision, rear-vision camera system	✓	
Cat Detect, object detection system		✓
Cab, sound suppressed and pressurized, integrated rollover protective structure/falling objects protective structure (ROPS/FOPS), radio ready for entertainment, includes antenna, speakers and converter (12-volt 5-amp) and power port	✓	
Cab precleaner		✓
Configurable external seat belt beacon indicator		✓
Configurable Operator IDs	✓	
Controls, lift and tilt function	✓	
Economy mode	✓	
3rd function valve controls		✓
Graphical information display, displays real time operating information, performs calibrations, and customizes operator settings	✓	
Instrumentation, gauges: coolant temperature, engine hour meter, hydraulic oil temperature, powertrain oil temperature	✓	
Heater, defroster	✓	
Horn, electric	✓	
LED warning strobe		✓
Light, cab, dome	✓	
Lights, directional	✓	
Lunchbox, beverage holders	✓	
Machine configurable overload protection	✓	
Mirrors, rearview (externally mounted)	✓	
Mirrors, handrail mounted		✓
Mirrors, heated		✓
Radio, AM/FM/CD/MP3 Bluetooth®	✓	
Radio, CB ready	✓	

	Standard	Optional
OPERATOR ENVIRONMENT (CONTINUED)		
Rimpull Control System (RCS)	✓	
Seat, deluxe	✓	
Seat, premium plus containing forced air heating and cooling, 2-way thigh adjustment, power lumbar and back bolster adjustment, ride stiffness, dynamic end dampening and leather finish		✓
Seat belt minder	✓	
Seat belt, retractable, 76 mm (3 in) wide	✓	
Steering and Transmission Integrated Control (STIC™) system	✓	
UV glass	✓	
Vital Information Management System (VIMS™) with graphical information display: external data port	✓	
Wet-arm wipers/washers (front and rear) – intermittent front and rear wipers	✓	
Window pull-down visor		✓
Operator presence	✓	
Slope indication	✓	
POWERTRAIN		
Premixed 50% concentration of extended life coolant with freeze protection to -34°C (-29°F)	✓	
Antifreeze -50°C (-58°F)		✓
Automatic retarding controls	✓	
Brakes, oil-cooled, multi-disc, service/secondary	✓	
Case drain screens	✓	
Crankcase guard		✓
Electro hydraulic parking brake	✓	
Engine brake		✓
Engine, C18 Mechanically Actuated Electronic Unit Injection (MEUI™) diesel, turbocharged/aftercooled	✓	
Engine oil change system, high speed, Wiggins		✓
Ground-level engine shutdown switch	✓	
High ambient cooling – software		✓
Turbine precleaner, engine air intake	✓	
Turbine precleaner, engine air intake dual stage	✓	
Radiator, aluminum modular radiator (AMR)	✓	
Starting aid, ether, automatic	✓	
Throttle lock, electronic	✓	
Torque Converter, Impeller Clutch (ICTC) with Lock-Up Clutch (LUC), rimpull control system	✓	
Transmission, planetary power shift, 4F/3R electronic control	✓	
Manual switch and automatic fuel priming	✓	

Standard and Optional Equipment

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

ADDITIONAL EQUIPMENT	Standard	Optional
Cold weather package: additional starter and 2 batteries, engine block heater 120V or 240V, heated fuel lines		✓
Base machine price includes a rim allowance	✓	
Cat Clean Emission Module (CEM)	✓	
Couplings, Cat O-ring face seals	✓	
Doors, service access (locking)	✓	
Ecology drains for engine, radiator, hydraulic tank	✓	
EZ Clean cooling system		✓
Fuel tank, 712L (188 gal)	✓	
Fast fill fuel system (Shaw-Aero)		✓
Front and rear roading fenders		✓

ADDITIONAL EQUIPMENT (CONTINUED)	Standard	Optional
Hitch, drawbar with pin	✓	
Hoses, Cat XT™	✓	
Hydraulic, steering and brake filtration/ screening system	✓	
Hydraulically driven demand fan	✓	
Oil sampling valves	✓	
Rear access to cab and service platform	✓	
Steering, load sensing	✓	
Tire pressure monitoring system		✓
Toe kicks	✓	
Vandalism protection caplocks	✓	
Wheel chocks		✓

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Steel Mill Arrangement

The Cat® 988 Steel Mill package provides the additional performance, productivity, and safety that is demanded in the steel mill.

Proven Reliability

- Cat C18 engine is built and tested to meet your most demanding applications.
- Cat Torque Converter with Lock-Up Clutch helps eliminate torque converter losses and lowers system heat.
- Maximum responsiveness with Steering and Transmission Integrated Control (STIC™).
- Moves more material more efficiently with improved power and control.
- Durable construction withstands the toughest loading conditions and multiple lifecycles.

Durability

- World-class transmission for long life and consistent, smooth shifting.
- Advanced Productivity Electronic Control Strategy (APECS) transmission controls for optimal momentum on grades.
- Positive Flow Control (PFC) hydraulic system helps increase efficiency, bucket feel, and responsiveness with consistent performance.
- Advanced filtration system for extended performance and reliability of the hydraulic system.
- Impeller Clutch Torque Converter (ICTC) helps minimize tire spin by allowing torque to adjust to underfoot conditions.

Achieve Greater Productivity

- Superior digging, higher bucket fill factors, reduced dig times.
- Improved visibility over the top of the linkage.
- Operators can now monitor tire pressure during operation. Any change sends a fault code to VisionLink®, helping prevent premature tire failure.

Superior Fuel Efficiency

- Economy mode helps optimize engine speed control for reduced fuel consumption no matter if operating in manual throttle or throttle lock.
- Flow sharing hydraulics provide full flow at reduced engine rpm.
- Fully integrated electronic engine controls help make your fuel go farther.
- Engine idle shutdown for less fuel used while idling.
- Increased hydraulic speed and fast cycle times help decrease idle and fuel burn with optimal efficiency.

Increase Productivity and Efficiency with Integrated Technologies

- Cat Technologies developed to monitor, manage, and enhance your jobsite operations.
- Cat Payload provides accurate weighing* of the materials you are loading and hauling. Payload data is displayed in real-time to improve productivity and reduce overloading.
- Cat Detect enhances awareness of the environment around working equipment and provides alerts to help keep people and assets safe on the jobsite.
- Product Link™ wirelessly connects you to your equipment, giving you access to essential information you need to know to run your business.
- Gain valuable insight into how your machine or fleet is performing.
- Optional advanced productivity plan provides comprehensive actionable information to help you manage and improve the productivity and profitability of your operations.
- Optimized dig segment cycle with optional operator assist – tire slip prevention, auto set tires, and lift stall prevention.

Steel Mill Arrangement

- Durable and reinforced attachments for operator comfort, safety, and easy machine access.
- Radiator is designed for easy cleaning and to keep material from building up.
- Auto reversing fan and easy access to cooling cores help keep cab at comfortable temperature.
- Equipped with extra guarding and heat protection for critical machine functions.
- Flame resistant ecosafe hydraulic fluid available as an option.
- Performance series, serrated edge slag, straight edge slag, and slag buckets help maximize material retention and minimize dig time.
- Transmission and parking brake override controls in the cab and rear bumper provide safe machine retrieval in case of emergency.

**Not legal for trade.*

988 Steel Mill Arrangement Specifications

Engine

Engine Model	Cat® C18	
Rated Speed	1,700 rpm	
Peak Power Speed	1,500 rpm	
Engine (ISO 14396:2002)	432 kW	580 hp
Gross (SAE J1995:2014)	439 kW	588 hp
Net Power (SAE J1349:2011)	403 kW	541 hp
Bore	145 mm	5.7 in
Stroke	183 mm	7.2 in
Displacement	18.1 L	1,105 in^3
Peak Torque @ 1,200 rpm	2852 N·m	2,104 lb-ft
Torque Rise	58%	

Three engine emission options are available:

1. Meets U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards.
2. Meets Brazil MAR-1 emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA.
3. Meets China Nonroad Stage IV emission standards.

- 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.

Operating Specifications

Operating Weight	51 062 kg	112,574 lb
Rated Payload – Standard	11.3 tonnes	12.5 tons
Rated Payload – High Lift	11.3 tonnes	12.5 tons
Bucket Capacity Range	6.4-7.6 m^3	8.3-10 yd^3
Cat Truck Match – Standard	770-772	
Cat Truck Match – High Lift	773-775	

Transmission

Transmission Type	Cat planetary power shift	
Forward 1	6.5 km/h	4.0 mph
Forward 2	11.6 km/h	7.2 mph
Forward 3	20.4 km/h	12.7 mph
Forward 4	34.7 km/h	21.6 mph
Reverse 1	7.5 km/h	4.7 mph
Reverse 2	13.3 km/h	8.3 mph
Reverse 3	23.2 km/h	14.4 mph
Direct Drive Forward 1	Lock-up disabled	
Direct Drive Forward 2	12.5 km/h	7.8 mph
Direct Drive Forward 3	22.3 km/h	13.9 mph
Direct Drive Forward 4	39.3 km/h	24.4 mph
Direct Drive Reverse 1	8.0 km/h	5.0 mph
Direct Drive Reverse 2	14.3 km/h	8.9 mph
Direct Drive Reverse 3	25.5 km/h	15.8 mph

- Travel speeds based on 35/65-R33 tire.

Hydraulic System – Lift/Tilt

Lift/Tilt System – Circuit	EH – positive flow control, flow sharing	
Lift/Tilt System	Variable displacement piston	
Maximum Flow at 1,400-1,860 rpm	580 L/min	153 gal/min
Relief Valve Setting – Lift/Tilt	32 800 kPa	4,757 psi
Cylinders, Double Acting: Lift, Bore and Stroke	210 mm × 1050 mm	8.3 in × 41.3 in
Cylinders, Double Acting: Tilt, Bore and Stroke	267 mm × 685 mm	10.5 in × 27.0 in
Pilot System	Variable displacement piston	
Maximum Flow	52 L/min	13.7 gal/min
Relief Valve Setting	3800 kPa	551 psi

Hydraulic Cycle Time (1,400-1,860 rpm)

Rackback	4.5 Seconds
Raise	8.0 Seconds
Dump	2.2 Seconds
Lower Float Down	3.5 Seconds
Total Hydraulic Cycle Time (empty bucket)	18.2 Seconds

Hydraulic System – Steering

Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Piston, variable displacement	
Maximum Flow	270 L/mim	71.3 gal/min
Relief Valve Setting – Steering	30 000 kPa	4,351 psi
Total Steering Angle	80°	
Steering Cycle Time (high idle)	3.4 sec	
Steering Cycle Time (low idle)	5.6 sec	

Service Refill Capacities

Fuel Tank	686 L	181 gal
Cooling System	92 L	24.3 gal
Crankcase	60 L	15.9 gal
Diesel Exhaust Fluid Tank (Tier 4)	33 L	8.7 gal
Transmission	92 L	24.3 gal
Differentials and Final Drives – Front	186 L	49.1 gal
Differentials and Final Drives – Rear	186 L	49.1 gal
Hydraulic System Factory Fill	475 L	125.5 gal
Hydraulic System (tank only)	240 L	63.4 gal

- All non-road Tier 4 Final/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 (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.
- 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).**
- For pre-Tier 4 engines: Cat engines 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.

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

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

Axles

Front	Fixed
Rear	Trunnion
Oscillation Angle	±6°

Brakes

Brakes	ISO 3450:2011

Sound Performance – Tier 4 Final/Stage V

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	111 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)**

Sound Performance – Tier 3/Stage IIIA

Operator Sound Pressure Level (ISO 6396:2008)	73 dB(A)
Machine Sound Power Level (ISO 6395:2008)	112 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)**

*For machines in European Union countries and in countries that adopt the "EU Directives" and "UK Directives."

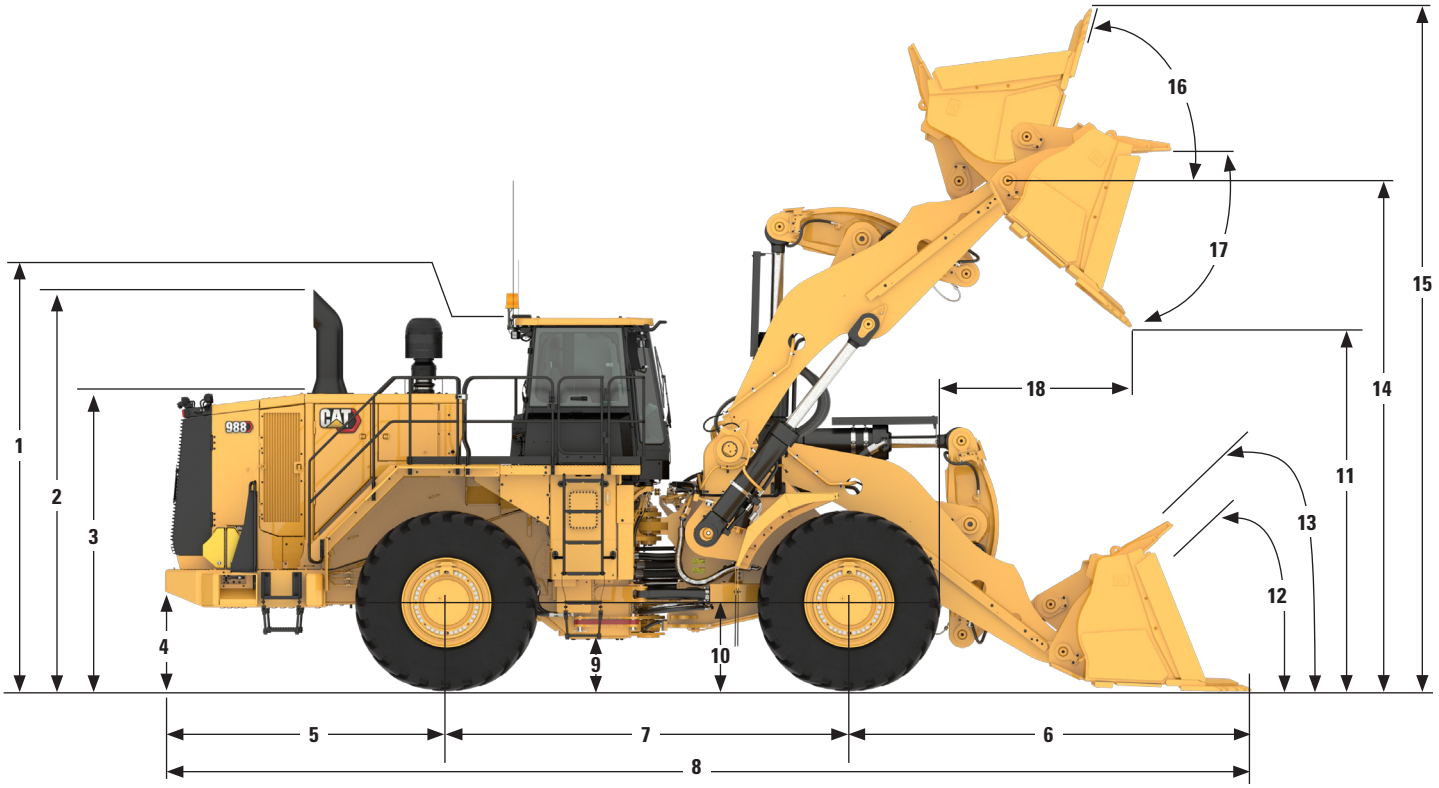
**European Union Directive "2000/14/EC" as amended by "2005/88/EC" and UK Noise Regulation 2001 No. 1701.

- The machine sound power level was measured according to ISO 6395:2008. The measurement was conducted at 70% of the maximum engine cooling fan speed.
- The operator sound pressure level was measured according to ISO 6396:2008. 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.

988 Steel Mill Arrangement Specifications

Dimensions

All dimensions are approximate.



		High Lift*	
1	Ground to Top of ROPS	4187 mm	13.7 ft
2	Ground to Top of Exhaust Stack	4214 mm	13.8 ft
3	Ground to Top of Hood	3334 mm	10.9 ft
4	Ground to Bumper Clearance	933 mm	3.1 ft
5	Rear Axle Centerline to Bumper	3187 mm	10.5 ft
6	Front Axle Centerline to Bucket Tip	4556 mm	14.9 ft
7	Wheelbase	4550 mm	14.9 ft
8	Maximum Overall Length	12 293 mm	40.3 ft
9	Ground to Lower Hitch Clearance	568 mm	1.9 ft
10	Ground to Center of Front Axle	978 mm	3.2 ft
11	Clearance at Maximum Lift	4088 mm	13.4 ft
12	Rack Back Angle at Ground Level	44.7 degrees	
13	Rack Back Angle at Carry	52.9 degrees	
14	B-Pin Height at Maximum Lift	5881 mm	19.3 ft
15	Maximum Overall Height, Bucket Raised	7778 mm	25.5 ft
16	Rack Angle at Maximum Lift	64.3 degrees	
17	Dump Angle at Maximum Lift	–50.1 degrees	
18	Reach at Maximum Lift	1921 mm	6.3 ft

*Dimensions shown with 6.5 m^3 (8.5 yd^3) serrated spade edge bucket.

Operating Specifications – High Lift

		988 High Lift, Tires: 35/65 R33 XLDD1, PN: 339-8790 SLR: 978 mm	
Bucket Type		**Slag**	
Ground Engaging Tool		**Serrated**	**J600**
Cutting Edge Type		**Spade**	**Straight**
Bucket Part Number		**421-6100**	**435-1810**
Struck Capacity	m^3 yd^3	5.0 6.5	4.2 5.5
Heaped Capacity (Rated)	m^3 yd^3	6.5 8.5	5.5 7.2
Bucket Width	mm ft	4032 13.2	3900 12.8
Dump Clearance at Full Lift and 45° Discharge (Bare)	mm ft	4151 13.6	4419 14.5
Dump Clearance at Full Lift and 45° Discharge (with Teeth)	mm ft	4088 13.4	4146 13.6
Reach at Full Lift and 45° Discharge (Bare)	mm ft	1858 6.1	1599 5.2
Reach at Full Lift and 45° Discharge (with Teeth)	mm ft	1921 6.3	1765 5.8
Reach with Lift Arms Horizontal and Bucket Level (with Teeth)	mm ft	4172 13.7	4021 13.2
Digging Depth (Segment)	mm in	228 9	222 9
Overall Length (Bucket Level on Ground)	mm ft	12 293 40.3	12 138 39.8
Overall Height with Bucket at Full Raise	mm ft	7778 25.5	7761 25.5
Loader Clearance Turning Radius (SAE Carry with Teeth)	mm ft	17 603 57.8	17 672 58.0
Full Dump Angle	deg	–50	–50
Static Tipping Load – Straight (Rigid Tire)	kg lb	31 072 68,359	31 742 69,831
Static Tipping Load – Straight (Tire Squash)	kg lb	29 312 64,487	29 980 65,956
Static Tipping Load – Full Turn (Articulated 35°) (Rigid Tire)	kg lb	27 371 60,216	28 012 61,626
Static Tipping Load – Full Turn (Articulated 35°) (Tire Squash)	kg lb	24 527 53,959	25 169 55,371
Static Tipping Load – Full Turn (Articulated 40°) (Rigid Tire)	kg lb	26 284 57,825	26 916 59,215
Static Tipping Load – Full Turn (Articulated 40°) (Tire Squash)	kg lb	23 235 51,117	23 867 52,507
Breakout Force	kN lbf	375 84,168	467 104,855
Operating Weight	kg lb	56 834 125,035	56 443 124,175
Weight Distribution at SAE Carry (Unloaded)			
Front	kg lb	34 069 74,952	33 377 73,429
Rear	kg lb	22 765 50,083	23 066 50,746
Weight Distribution at SAE Carry (Loaded)			
Front	kg lb	53 244 117,137	52 446 115,382
Rear	kg lb	14 930 32,846	15 337 33,741

Michelin XLDD1 2 Star with 6.3 bar (92 psi) pressure.

Standard and Optional Equipment

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

	Standard	Optional
ELECTRICAL		
Alarm, backup	✓	
Alternator, single 150 amp	✓	
Auxiliary jump start receptacle	✓	
Batteries, dry	✓	
Converter, 10/15 amp, 24V to 12V	✓	
Lighting system (LED work lights, access and service platform lighting)	✓	
Lighting system underhood service lighting		✓
Starting and charging system, 24V	✓	
Starter lockout in bumper	✓	
Transmission lockout in bumper	✓	
OPERATOR ENVIRONMENT		
Air conditioner	✓	
Cat Vision, rear-vision camera system	✓	
Cat Production Measurement ready	✓	
Cat Production Measurement		✓
Cat Detect, object detection system		✓
Cab, sound suppressed and pressurized, integrated rollover protective structure/falling objects protective structure (ROPS/FOPS), radio ready for entertainment, includes antenna, speakers and converter (12-volt 5-amp) and power port	✓	
Cab precleaner		✓
Configurable external seat belt beacon indicator		✓
Configurable Operator IDs	✓	
Controls, lift and tilt function	✓	
Economy mode	✓	
3rd function valve controls		✓
Graphical information display, displays real time operating information, performs calibrations, and customizes operator settings	✓	
Instrumentation, gauges: coolant temperature, engine hour meter, hydraulic oil temperature, powertrain oil temperature	✓	
Heater, defroster	✓	
Horn, electric	✓	
LED warning strobe		✓
Light, cab, dome	✓	
Lights, directional	✓	
Lunchbox, beverage holders	✓	
Machine configurable overload protection	✓	
Mirrors, rearview (externally mounted)	✓	
Mirrors, handrail mounted		✓
Mirrors, heated		✓
Radio, AM/FM/CD/MP3 Bluetooth®	✓	
Radio, CB ready	✓	

	Standard	Optional
OPERATOR ENVIRONMENT (CONTINUED)		
Rimpull Control System (RCS)	✓	
Seat, deluxe	✓	
Seat, premium plus containing forced air heating and cooling, 2-way thigh adjustment, power lumbar and back bolster adjustment, ride stiffness, dynamic end dampening and leather finish		✓
Seat belt minder	✓	
Seat belt, retractable, 76 mm (3 in) wide	✓	
Steering and Transmission Integrated Control (STIC™) system	✓	
UV glass	✓	
Vital Information Management System (VIMS™) with graphical information display: external data port	✓	
Wet-arm wipers/washers (front and rear) – intermittent front and rear wipers	✓	
Window pull-down visor		✓
Operator presence	✓	
Slope Indication	✓	
POWERTRAIN		
Premixed 50% concentration of extended life coolant with freeze protection to -34°C (-29°F)	✓	
Antifreeze -50°C (-58°F)		✓
Automatic retarding controls for operating on grades	✓	
Brakes, oil-cooled, multi-disc, service/ secondary	✓	
Case drain screens	✓	
Crankcase guard		✓
Electro hydraulic parking brake	✓	
Engine brake		✓
Engine, C18 Mechanically Actuated Electronic Unit Injection (MEUI™) diesel, turbocharged/ aftercooled	✓	
Engine oil change system, high speed, Wiggins		✓
Ground-level engine shutdown switch	✓	
High ambient cooling – software		✓
Turbine precleaner, engine air intake	✓	
Turbine precleaner, engine air intake dual stage	✓	
Radiator, Aluminum Modular Radiator (AMR)	✓	
Starting aid, ether, automatic	✓	
Throttle lock, electronic	✓	
Torque Converter, Impeller Clutch (ICTC) with Lock-Up Clutch (LUC), rimpull control system	✓	
Transmission and parking brake overrides	✓	
Transmission, planetary power shift, 4F/3R electronic control	✓	
Manual switch and automatic fuel priming	✓	

Standard and Optional Equipment

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

ADDITIONAL EQUIPMENT	Standard	Optional
Operator assist ready	✓	
Operator assist, tire slip prevention, auto set tires, and lift stall prevention		✓
Cold weather package: additional starter and 2 batteries, engine block heater 120V or 240V, heated fuel lines		✓
Autolube with auto shutoff		✓
Automatic bucket lift kickout/positioner	✓	
Base machine price includes a rim allowance	✓	
Cat Clean Emission Module (CEM)	✓	
Couplings, Cat O-ring face seals	✓	
Doors, service access (locking)	✓	
Ecology drains for engine, radiator, hydraulic tank	✓	
EZ Clean cooling system		✓
Fuel tank, 712L (188 gal)	✓	

ADDITIONAL EQUIPMENT (CONTINUED)	Standard	Optional
Fast fill fuel system (Shaw-Aero)		✓
Front and rear roading fenders		✓
Hitch, drawbar with pin	✓	
Hoses, Cat XT™	✓	
Hydraulic, steering and brake filtration/ screening system	✓	
Hydraulically driven demand fan	✓	
Load and carry counterweight		✓
Oil sampling valves	✓	
Rear access to cab and service platform	✓	
Steering, load sensing	✓	
Tire pressure monitoring system		✓
Toe kicks	✓	
Transmission brake	✓	
Vandalism protection caplocks	✓	
Wheel chocks		✓

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

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Replaces AEXQ3705-01
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(Global)