988 XE
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 XE 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)	3023 N·m	2,230 lbf-ft
Torque Rise	58%	

- Two engine emissions 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.
- 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 switched reluctance electric drive	
Forward 1 (virtual)	7.0 km/h	4.3 mph
Forward 2 (virtual)	11.3 km/h	7.0 mph
Forward 3 (virtual)	22.2 km/h	13.8 mph
Forward 4 (virtual)	32.1 km/h	20.0 mph
Reverse 1 (virtual)	7.0 km/h	4.3 mph
Reverse 2 (virtual)	11.3 km/h	7.0 mph
Reverse 3 (virtual)	28.2 km/h	17.5 mph

Operating Specifications

Operating Weight	52 781 kg	116,362 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

Hydraulic System – Lift/Tilt

Lift/Tilt System – Circuit	EH – positive flow control, flow sharing	
Lift/Tilt System Pumps	Variable displacement piston	
Maximum Flow at 1,400-1,600 rpm	580 L/min	153 gal/min
Relief Valve Setting – Lift/Tilt	32 800 kpa	4,757 psi
Lift Cylinder – Bore	210 mm	8.7 in
Lift Cylinder – Stroke	1050 mm	41.3 in
Tilt Cylinder – Bore	266 mm	8.7 in
Tilt Cylinder – Stroke	685 mm	27.0 in

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	18.2 seconds

Hydraulic System – Steering

Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Variable displacement piston	
Maximum Flow @ × 1,400-1,600 rpm	270 L/min	71.3 gal/min
Steering Cut Off Pressure	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 (Global Warming Potential = 1430). The system contains 1.8 kg of refrigerant which has a CO_2 equivalent of 2.574 metric tonnes.

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

Service Refill Capacities

Fuel Tank	555 L	147.0 gal
Cooling System (jacket water)	112 L	30.0 gal
Cooling Systems (power train)	30 L	8.0 gal
Engine Crankcase	60 L	16.0 gal
Diesel Exhaust Fluid (DEF) Tank	33 L	8.7 gal
Transmission	60 L	16.0 gal
Differentials and Final Drives – front	186 L	49.0 gal
Differentials and Final Drives – rear	186 L	49.0 gal
Hydraulic System – implement/steering	475 L	126.0 gal

- All nonroad Tier 4 Final/Stage V diesel engines are required to use:
  - The machine has the flexibillity to run on either ultra-low sulfur diesel fuel (ULSD with 15 ppm of sulfur or less).
  - 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.*

  - Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specifications are required.
  - Only use DEF that meets ISO 22241-1 standards.

Sound Performance

Tier 4 Final/Stage V	
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Pressure Level (ISO 6395:2008)	109 dB(A)**

Tier 3/Stage III	
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Pressure Level (ISO 6395:2008)	110 dB(A)**

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

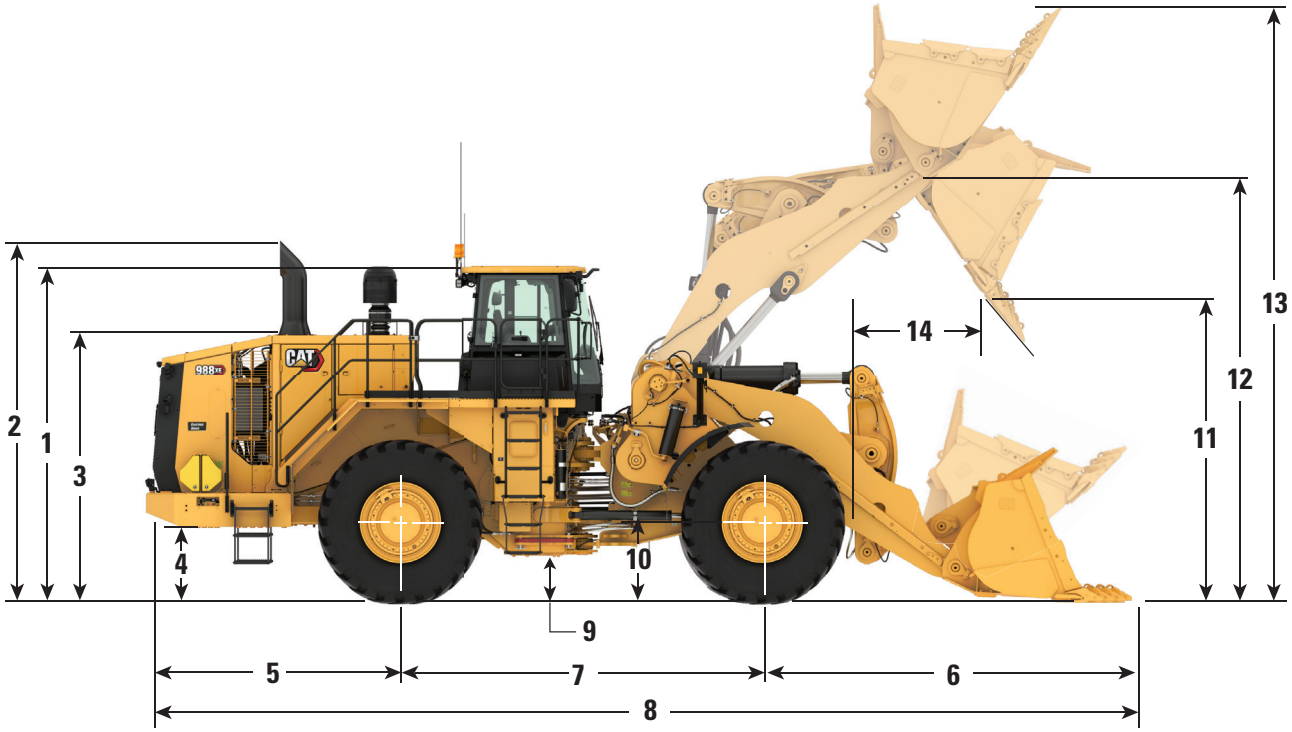
** European Union Directive "2000/14/EC" as amended by "2005/88/EC" and UK Noise Regulation 2001 No. 1701

- 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 XE 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	4521 mm	14.8 ft	4521 mm	14.8 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	5491 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 and Michelin XLDD2 with 978 mm (3.2 ft) centerline of rear axle height.

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, GET, and wear material. Rated Payloads are published at 100 percent, even though Caterpillar does allow 110 percent. 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.

988 XE Wheel Loader Specifications

Aggregate Package Operating Specifications – Standard Lift

		988 XE Std Lift Agg Pkg Tires: 35/65 R33 XLDD2, PN: 399-4568 SLR: 978			
Bucket Type		General Purpose			
Ground Engaging Tool		Segments			
Cutting Edge Type		Straight			
Bucket Part Number (Group Level)		**638-8780**	**638-8770**	**634-0623**	**621-1500**
Rated Capacity	m^3	9.6	8.4	7.6	6.9
	yd^3	12.5	11.0	10.0	9.0
Struck Capacity ISO	m^3	8.0	7.0	6.5	5.5
	yd^3	10.5	9.2	8.5	7.2
Heaped Capacity ISO	m^3	9.5	8.5	7.5	7.0
	yd^3	12.4	11.1	9.8	9.2
Bucket Width – Overall	mm	3987	3987	3987	3987
	ft	13.1	13.1	13.1	13.1
Clearance At 45° Dump (Tooth Tip) (A)	mm	-	-	-	-
	ft	-	-	-	-
Clearance At 45° Dump (Edge) (A)	mm	3647	3754	3819	3882
	ft	12.0	12.3	12.5	12.7
Reach At 45° Dump (Tooth Tip) (F)	mm	-	-	-	-
	ft	-	-	-	-
Reach At 45° Dump (Edge) (F)	mm	1900	1794	1722	1652
	ft	6.2	5.9	5.6	5.4
Horizontal Arm and Level Bucket Reach (Edge)	mm	3914	3764	3667	3573
	ft	12.8	12.3	12.0	11.7
Digging Depth (Segment)	mm	195	195	200	205
	in	7.7	7.7	7.9	8.1
Overall Length – Bucket Level Ground (E)	mm	11 958	11 808	11 715	11 624
	ft	39.2	38.7	38.4	38.1
Overall Height (C)	mm	7829	7688	7589	7486
	ft	25.7	25.2	24.9	24.6
Turning Circle – Corner SAE Carry	mm	17 401	17 313	17 261	17 212
	ft	9.2	8.9	8.7	8.6
Rackback Angle At SAE Carry	degree	50.0	50.0	50.0	50.1
Full Dump At Max Lift	degree	-49.8	-49.8	-49.8	-49.8
Tipping Load, Rigid Tires – Straight	kg	41 120	41 745	42 060	42 434
	lb	90,654	92,032	92,727	93,551
At Operating Weight (Articulated 35°)	kg	36 688	37 297	37 606	37 970
	lb	65,658	69,067	71,231	73,477
Tipping Load, Tire Squash – Straight	kg	38 470	39 127	39 470	39 868
	lb	84,811	86,259	87,017	87,893
At Operating Weight (Articulated 35°)	kg	32 597	33 251	33 600	33 997
	lb	61,701	64,825	66,800	68,849
Lift Capacity – Bucket Level Ground	kg	32 912	34 323	35 224	36 154
	lb	72,558	75,670	77,657	79,705
Breakout Force SAE Rated	kg	39 750	43 204	45 673	48 330
	lb	87,633	95,248	100,691	106,550
Operating Weight (Notes A&B)	kg	55 442	55 024	54 797	54 544
	lb	122 228	121 307	120 806	120 248
Weight Distribution At SAE Carry Front	kg	28 290	27 566	27 176	26 746
	lb	62,368	60,773	59,913	58,965
Weight Distribution At SAE Carry Rear	kg	27 153	27 458	27 621	27 798
	lb	59,861	60,535	60,894	61,284
Loaded Machine Weight	kg	69 957	69 539	69 312	69 059
	lb	154,230	153,308	152,808	152,250
Weight Distribution At SAE Carry Front	kg	51 815	50 987	50 542	50 051
	lb	114,233	112,408	111,426	110,344
Weight Distribution At SAE Carry Rear	kg	18 142	18 552	18 771	19 008
	lb	39,997	40,900	41,382	41,906

*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

		988 XE High Lift Agg Pkg Tires: 35/65 R33 XLDD2, PN: 399-4568 SLR: 978			
Bucket Type		General Purpose			
Ground Engaging Tool		Segments			
Cutting Edge Type		Straight			
Bucket Part Number (Group Level)		**638-8780**	**638-8770**	**634-0623**	**621-1500**
Rated Capacity	m^3	9.6	8.4	7.6	6.9
	yd^3	12.5	11.0	10.0	9.0
Struck Capacity ISO	m^3	8.0	7.0	6.5	5.5
	yd^3	10.5	9.2	8.5	7.2
Heaped Capacity ISO	m^3	9.5	8.5	7.5	7.0
	yd^3	12.4	11.1	9.8	9.2
Bucket Width – Overall	mm	3987	3987	3987	3987
	ft	13.1	13.1	13.1	13.1
Clearance At 45° Dump (Tooth Tip) (A)	mm	-	-	-	-
	ft	-	-	-	-
Clearance At 45° Dump (Edge) (A)	mm	4041	4147	4212	4275
	ft	13.3	13.6	13.8	14.0
Reach At 45° Dump (Tooth Tip) (F)	mm	-	-	-	-
	ft	-	-	-	-
Reach At 45° Dump (Edge) (F)	mm	1988	1882	1810	1740
	ft	6.5	6.2	5.9	5.7
Horizontal Arm and Level Bucket Reach (Edge)	mm	4253	4103	4006	3912
	ft	14.0	13.5	13.1	12.8
Digging Depth (Segment)	mm	214	214	219	224
	in	8.4	8.4	8.6	8.8
Overall Length – Bucket Level Ground (E)	mm	12 365	12 215	12 121	12 030
	ft	40.6	40.1	39.8	39.5
Overall Height (C)	mm	8222	8081	7982	7880
	ft	27.0	26.5	26.2	25.9
Turning Circle – Corner SAE Carry	mm	17 736	17 647	17 595	17 545
	ft	58.2	57.9	57.7	57.6
Rackback Angle At SAE Carry	degree	52.8	52.8	52.8	52.9
Full Dump At Max Lift	degree	-50.1	-50.1	-50.1	-50.1
Tipping Load, Rigid Tires – Straight	kg	41 428	42 003	42 289	42 631
	lb	91,333	92,600	93,230	93,984
At Operating Weight (Articulated 35°)	kg	36 786	37 348	37 630	37 966
	lb	81,098	82,339	82,961	83,700
Tipping Load, Tire Squash – Straight	kg	38 931	39 541	39 857	40 225
	lb	85,827	87,173	87,869	88,680
At Operating Weight (Articulated 35°)	kg	32 691	33 304	33 629	34 000
	lb	72,071	73,424	74,138	74,957
Lift Capacity – Bucket Level Ground	kg	29 854	31 119	31 921	32 750
	lb	72,071	68,605	70,373	72,201
Breakout Force SAE Rated	kg	36 548	39 758	42 053	44 524
	lb	80,574	87,651	92,710	98,158
Operating Weight (Notes A&B)	kg	58352	57934	57707	57 454
	lb	128,644	127,722	127,222	126,664
Weight Distribution At SAE Carry Front	kg	28 262	27 507	27 100	26 650
	lb	62,307	60,643	59,745	58,753
Weight Distribution At SAE Carry Rear	kg	30 090	30 427	30 607	30 804
	lb	66,337	67,079	67,477	67,911
Loaded Machine Weight	kg	72 867	72 449	72 222	71 969
	lb	160,644	159,722	159,222	158,664
Weight Distribution At SAE Carry Front	kg	52 968	52 122	51 667	51 164
	lb	116,775	114,910	113,906	112,797
Weight Distribution At SAE Carry Rear	kg	19 899	20 327	20 555	20 805
	lb	43,869	44,812	45,315	45,867

*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 XE Wheel Loader Specifications

Operating Specifications – Standard Lift

		988 XE Std Lift Tires: 35/65 R33 XLDD2, PN: 399-4568 SLR: 978					
Bucket Type		**General Purpose**		**Rock**			**HD Rock**
Ground Engaging Tool		**Adapters or BOCE**		**X130**			**X130**
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	8.3	8.3
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	-	-	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	-	-	6.9	6.7	6.5	6.5
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	degree	50.0	50.1	50.0	50.0	50.0	50.0
Full Dump At Max Lift	degree	-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 (Articulated35°)	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	30 626	30 975	29 721	30 176	30 386	29 274
	lb	27,878	28,791	25,275	26,286	26,939	26,102
At Operating Weight (Articulated 35°)	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
Lift Capacity – Bucket Level Ground	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

		988 XE High Lift Tires: 35/65 R33 XLDD2, PN: 399-4568 SLR: 978					
Bucket Type		**General Purpose**		**Rock**			**HD Rock**
Ground Engaging Tool		**Adapters or BOCE**		**X130**			**X130**
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	8.3	8.3
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	degree	52.8	52.9	52.9	52.9	52.9	52.9
Full Dump At Max Lift	degree	-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	61,239	58,592	59,601	60,062	57,661
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 XE 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	✓	
Batteries, dry	✓	
Converter, 10/15 amp, 24V to 12V	✓	
Hazardous voltage lamp	✓	
Jump start receptacle	✓	
Lighting system (LED work lights, access and service platform lighting)	✓	
Lighting system (high performance 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 Detect, object detection system		✓
Cat Production Measurement		✓
Cat Production Measurement ready	✓	
Cat Vision, rear-vision camera system	✓	
Cab precleaner		✓
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	✓	
Controls, lift and tilt function	✓	
3rd function valve controls		✓
Graphical information display, displays real time operating information, performs calibrations, and customizes operator settings	✓	
Heater, defroster	✓	
Horn, electric	✓	
Instrumentation, gauges: coolant temperature, engine hour meter, hydraulic oil temperature, powertrain oil temperature	✓	
LED warning strobe		✓
Light, cab, dome	✓	
Lights, directional	✓	
Lunchbox, beverage holders	✓	
Mirrors, handrail mounted		✓
Mirrors, heated		✓
Mirrors, rearview (externally mounted)	✓	
Operator presence	✓	
Radio, AM/FM/CD/MP3 Bluetooth®	✓	
Radio, AM/FM/CD/MP3 Bluetooth with Satellite Sirius XM		✓
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	✓	
Slope indication	✓	
Steering and Transmission Integrated Control (STIC™) system	✓	
UV glass	✓	
Virtual gear indicator	✓	
Vital Information Management System (VIMS™) with graphical information display: external data port, customizable operator profiles, cycle timer, integrated payload control system	✓	
Wet-arm wipers/washers (front and rear) – intermittent front and rear wipers	✓	
Window pull-down visor		✓
POWERTRAIN		
Antifreeze -50°C (-58°F)		✓
Automatic retarding controls	✓	
Brakes, oil-cooled, multi-disc, service/secondary	✓	
Case drain screens	✓	
Cat integrated powered electronics	✓	
Cat switched reluctance (SR) drive motor	✓	
Cat switched reluctance (SR) generator/ pump drive	✓	
Crankcase guard		✓
Electro hydraulic parking brake	✓	
Engine brake, software enabled attachment (SEA)		✓
Engine, C18 diesel, turbocharged/aftercooled	✓	
Engine oil change system, high speed, Wiggins		✓
Ground-level engine shutoff	✓	
High ambient cooling – software		✓
Manual switch and automatic fuel priming	✓	
Radiator, aluminum modular radiator (AMR)	✓	
Starting aid, ether, automatic	✓	
Throttle lock, electronic	✓	
Turbine precleaner, engine air intake	✓	
Turbine precleaner, engine air intake dual stage		✓

Standard and Optional Equipment

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

	Standard	Optional
ADDITIONAL EQUIPMENT		
Operator assist feature, tire slip prevention	✓	
Operator assist features, auto set tires and lift stall prevention		✓
Additional counterweight		✓
Autolube with auto shutoff		✓
Automatic bucket lift kickout/positioner	✓	
Base machine price includes a rim allowance	✓	
Cat Clean Emission Module (CEM)	✓	
Cold weather package: additional starter and 2 batteries, engine block heater 120V or 240V, heated fuel lines		✓
Couplings, Cat O-ring face seals	✓	
Doors, service access (locking)	✓	
Ecology drains for engine, radiator, hydraulic tank	✓	
Fast fill fuel system (Shaw-Aero)		✓
Front and rear roading fenders		✓
Fuel tank, 555 L (147 gal)	✓	
Hitch, drawbar with pin	✓	
Hoses, Cat XT™	✓	
Hydraulic, steering and brake filtration/screening system	✓	

	Standard	Optional
ADDITIONAL EQUIPMENT (CONTINUED)		
Hydraulically driven demand fan	✓	
Oil sampling valves	✓	
Operator coaching		✓
Rear access to cab and service platform	✓	
Regenerative braking	✓	
Steering, load sensing	✓	
Tire pressure monitoring system		✓
Toe kicks	✓	
Vandalism protection caplocks	✓	
Wheel chocks		✓
OTHER OPTIONAL CONFIGURATIONS		
Aggregate handler		✓
Load and carry		✓
Millyard		✓

988 XE 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

- Two engine emissions 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.
- 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 (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)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Pressure Level (ISO 6395:2008)	109 dB(A)**

Tier 3/Stage III	
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Pressure 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.
  - Up to 25% better fuel efficiency overall, up to 49% in truck loading applications
  - ECO mode minimizes fuel consumption for light applications
  - 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
  - Extended maintenance intervals reduce fluid and filter consumption
  - Boost productivity with optional technologies like operator coaching and new autodig 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%

988 XE

Millyard

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

Proven Reliability

- With 15+ years of electric-drive experience, the 988 XE combines the simple and robust switched reluctance technology with proven machine design.
- More than 90% identical to the Cat 988 millyard.
- Fewer moving parts than traditional torque converter and mechanical transmission systems.
- Solid-state, fully sealed, and liquid-cooled powered electronics maximize durability in extreme conditions.
- Cat C18 engine is built and tested to meet your most demanding applications.
- Advanced filtration system for extended performance and reliability of the hydraulic system.

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.
- Electric-drive system eliminates shifting and simplifies operator control, accelerating the learning curve of new operators.
- 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 reduce 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 for full flow at reduced engine rpm.
- Increased hydraulic speed and faster cycle times help decrease idle time and fuel burn.

Safety Features

- Hazardous voltage lamp assures electric drive system is de-energized and machine is safe to work on.
- 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 helps provide lower risk of slips, trips, and falls due to better visbility of the steps and stairway.
- Left- and right-hand stairs with 45-degree angle.
- 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

- Electric-drive system maximizes consumable life, reducing oil and filter waste. Enables two times the life for powertrain oil and four times the life for filters.
- 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.
- Optional engine compartment lighting for great visibility while servicing the engine.
- 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 XE Millyard 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)	3023 N·m	2,230 lbf-ft
Torque Rise	58%	

- Two engine emissions 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.
- 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 switched reluctance electric drive	
Forward 1 (virtual)	7.0 km/h	4.3 mph
Forward 2 (virtual)	11.3 km/h	7.0 mph
Forward 3 (virtual)	22.2 km/h	13.8 mph
Forward 4 (virtual)	32.1 km/h	20.0 mph
Reverse 1 (virtual)	7.0 km/h	4.3 mph
Reverse 2 (virtual)	11.3 km/h	7.0 mph
Reverse 3 (virtual)	28.2 km/h	17.5 mph

Operating Specifications

Operating Weight	52 781 kg	116,362 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

Hydraulic System – Lift/Tilt

Lift/Tilt System – Circuit	EH – positive flow control, flow sharing	
Lift/Tilt System Pumps	Variable displacement piston	
Maximum Flow at 1,400-1,600 rpm	580 L/min	153 gal/min
Relief Valve Setting – Lift/Tilt	32 800 kpa	4,757 psi
Lift Cylinder – Bore	210 mm	8.7 in
Lift Cylinder – Stroke	1050 mm	41.3 in
Tilt Cylinder – Bore	266 mm	8.7 in
Tilt Cylinder – Stroke	685 mm	27.0 in

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	18.2 seconds

Hydraulic System – Steering

Steering System – Circuit	Pilot, load sensing	
Steering System – Pump	Variable displacement piston	
Maximum Flow @ × 1,400-1,600 rpm	270 L/min	71.3 gal/min
Steering Cut Off Pressure	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 (Global Warming Potential = 1430). The system contains 1.8 kg of refrigerant which has a CO_2 equivalent of 2.574 metric tonnes.

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

Service Refill Capacities

Fuel Tank	555 L	147.0 gal
Cooling System (jacket water)	112 L	30.0 gal
Cooling Systems (powertrain)	30 L	8.0 gal
Engine Crankcase	60 L	16.0 gal
Diesel Exhaust Fluid (DEF) Tank	33 L	8.7 gal
Transmission	60 L	16.0 gal
Differentials and Final Drives – front	186 L	49.0 gal
Differentials and Final Drives – rear	186 L	49.0 gal
Hydraulic System – implement/steering	475 L	126.0 gal

- All nonroad Tier 4 Final/Stage V diesel engines are required to use:
  - The machine has the flexibillity to run on either ultra-low sulfur diesel fuel (ULSD with 15 ppm of sulfur or less).
  - 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.*

  - Cat DEO-ULS or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specifications are required.
  - Only use DEF that meets ISO 22241-1 standards.

Sound Performance

Tier 4 Final/Stage V	
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	109 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Pressure Level (ISO 6395:2008)	109 dB(A)**

Tier 3/Stage III	
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)
Machine Sound Power Level (ISO 6395:2008)	110 dB(A)
Operator Sound Pressure Level (ISO 6396:2008)	72 dB(A)*
Machine Sound Pressure Level (ISO 6395:2008)	110 dB(A)**

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

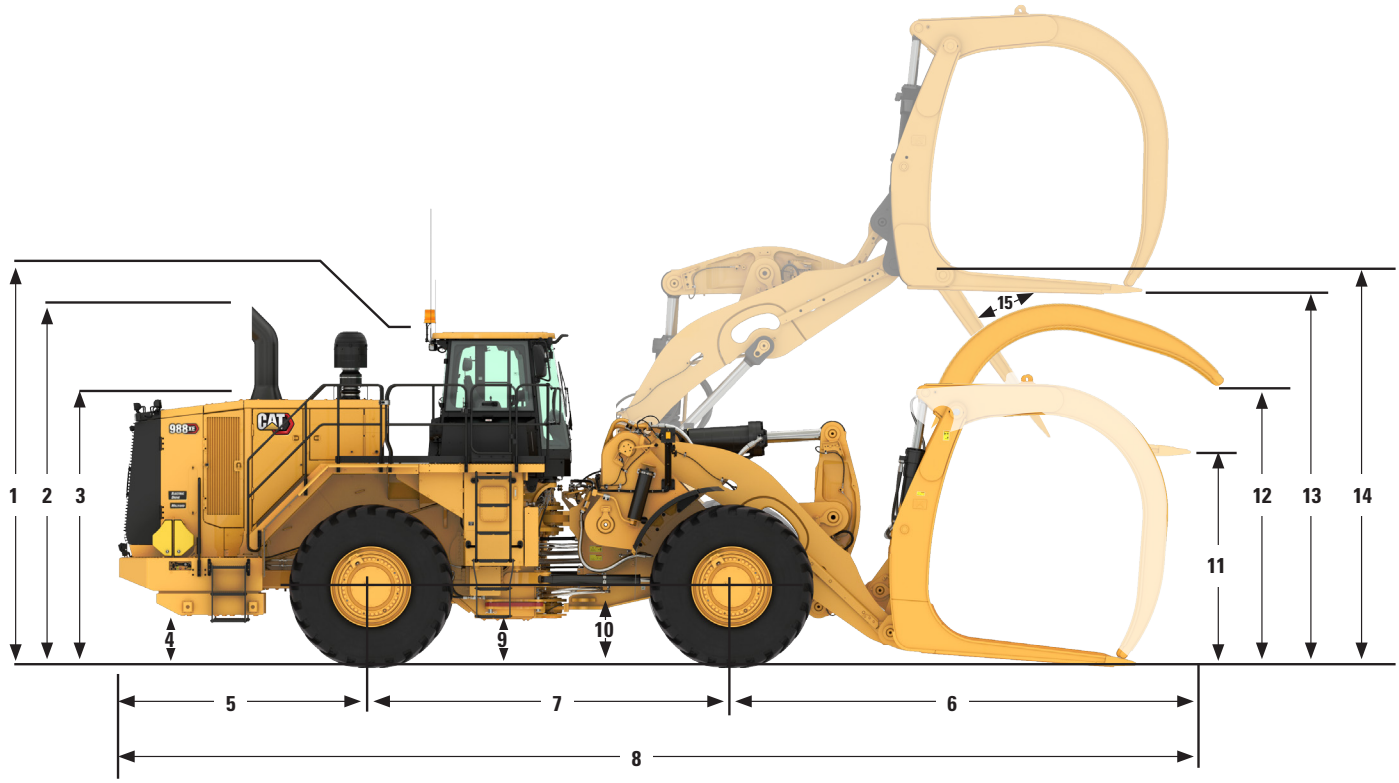
** European Union Directive "2000/14/EC" as amended by "2005/88/EC" and UK Noise Regulation 2001 No. 1701

- 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 XE Millyard Specifications

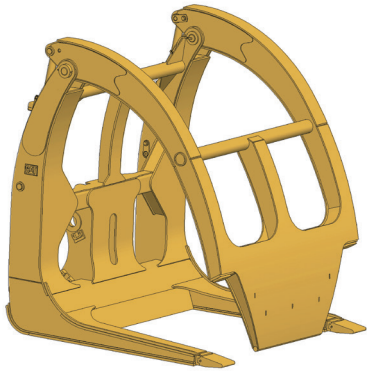
Dimensions

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	5023 mm	16.5 ft
7	Wheelbase	4550 mm	14.9 ft
8	Maximum Overall Length	12 761 mm	41.9 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	2474 mm	8.1 ft
12	Fork Top Clamp Opening	4006 mm	13.1 ft
13	Fork Height at Maximum Lift	5242 mm	17.2 ft
14	Hinge Pin Height at Maximum Lift	4918 mm	16.1 ft
15	Dump Angle at Maximum Lift	-39.4 degrees	

Forks and Buckets



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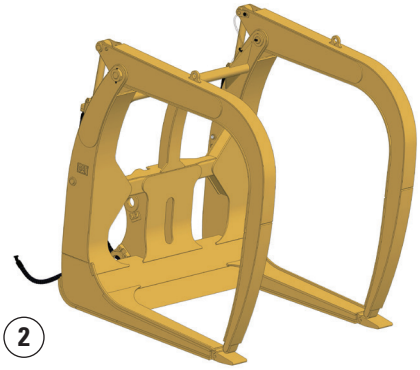

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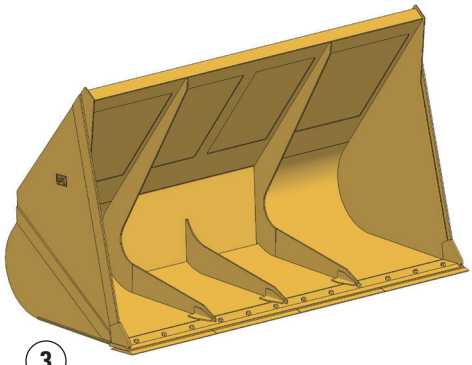

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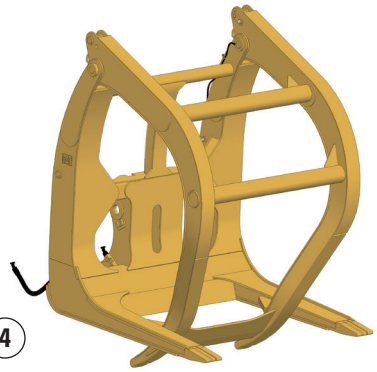

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Forks and Buckets

Millyard and logging forks are designed to move wood in the millyard. Woodchip buckets are designed with performance characteristics to bring productivity and fuel efficiency to load-and-carry work in the yard.

1 **Millyard Forks:** A single top clamp closes down between the tines, allowing individual logs to be picked up and placed with ease. An open, high-visibility design allows operators to see the job at hand and work faster and more efficiently.

2 **Logging Forks:** Dual top clamps close down to the tine tips; their curvature maximizes carry capacity. Built to match the task of unloading trucks. An open, high-visibility design allows operators to see the job at hand and work faster and more efficiently.

3 **Woodchip Buckets:** Extra capacity and loading characteristics make this bucket style perfect for handling woodchips. Available in direct pin-on models or for use with the Cat Quick Coupler System.

4 **Cat Full Width Forks:** Dual top clamps are connected to allow maximum capacity while still closing between the tines, allowing partial loads to be handled.

988 XE Millyard 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	✓	
Batteries, dry	✓	
Converter, 10/15 amp, 24V to 12V	✓	
Hazardous voltage lamp	✓	
Jump start receptacle	✓	
Lighting system (LED work lights, access and service platform lighting)	✓	
Lighting system (high performance 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	✓	
Cab mirrors, rearview	✓	
Cab precleaner		✓
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	✓	
Cat Detect, object detection system		✓
Cat Vision, rear-vision camera system	✓	
Configurable external seat belt indicator		✓
Controls, lift and tilt function	✓	
3rd function valve controls		✓
Economy (ECO) mode	✓	
Graphical information display, displays real time operating information, performs calibrations, and customizes operator settings	✓	
Heater, defroster	✓	
Horn, electric	✓	
Instrumentation, gauges: coolant temperature, engine hour meter, hydraulic oil temperature, powertrain oil temperature	✓	
LED warning strobe		✓
Light, cab, dome	✓	
Lights, directional	✓	
Lunchbox, beverage holders	✓	
Mirrors, handrail mounted		✓
Mirrors, heated		✓
Mirrors, rearview (externally mounted)	✓	
Operator presence	✓	
Radio, AM/FM/CD/MP3 Bluetooth®	✓	
Radio, AM/FM/CD/MP3 Bluetooth with Satellite Sirius XM		✓
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	✓	
Single pedal mode with active dynamic braking	✓	
Slope indication	✓	
Steering and Transmission Integrated Control (STIC™) system	✓	
UV glass	✓	
Virtual gear indicator	✓	
Vital Information Management System (VIMS™) with graphical information display: external data port, customizable operator profiles, cycle timer, integrated payload control system	✓	
Wet-arm wipers/washers (front and rear) – intermittent front and rear wipers	✓	
Window pull-down visor		✓
POWERTRAIN		
Antifreeze -50°C (-58°F)		✓
Automatic retarding controls	✓	
Brakes, oil-cooled, multi-disc, service/secondary	✓	
Case drain screens	✓	
Cat integrated powered electronics	✓	
Cat switched reluctance (SR) drive motor	✓	
Cat switched reluctance (SR) generator/ pump drive	✓	
Crankcase guard		✓
Electro hydraulic parking brake	✓	
Engine brake, software enabled attachment (SEA)		✓
Engine, C18 diesel, turbocharged/aftercooled	✓	
Engine oil change system, high speed, Wiggins		✓
Ground-level engine shutoff	✓	
High ambient cooling – software		✓
Manual switch and automatic fuel priming	✓	
Radiator, aluminum modular radiator (AMR)	✓	
Starting aid, ether, automatic	✓	
Throttle lock, electronic	✓	
Turbine precleaner, engine air intake	✓	
Turbine precleaner, engine air intake dual stage		✓

Standard and Optional Equipment

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

ADDITIONAL EQUIPMENT	Standard	Optional
Operator assist feature, tire slip prevention	✓	
Operator assist features, auto set tires and lift stall prevention		✓
Autolube with auto shutoff		✓
Automatic bucket lift kickout/positioner	✓	
Base machine price includes a rim allowance	✓	
Cat Clean Emission Module (CEM)	✓	
Cold weather package: additional starter and 2 batteries, engine block heater 120V or 240V, heated fuel lines		✓
Couplings, Cat O-ring face seals	✓	
Doors, service access (locking)	✓	
Ecology drains for engine, radiator, hydraulic tank	✓	
Fast fill fuel system (Shaw-Aero)		✓
Front and rear roading fenders		✓
Fuel tank, 555 L (147 gal)	✓	
Hitch, drawbar with pin	✓	
Hoses, Cat XT™	✓	
Hydraulic, steering and brake filtration/screening system	✓	

ADDITIONAL EQUIPMENT (CONTINUED)	Standard	Optional
Hydraulically driven demand fan	✓	
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		✓

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

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