

# Product Specifications For 988



## Engine

<b>Net Power - SAE J1349:2011</b>	538 hp
<b>Engine Power - ISO 14396:2002</b>	580 hp
<b>Gross Power - SAE J1995:2014</b>	588 hp
<b>Engine Model</b>	Cat® C18 <sup>TM</sup>
<b>Peak Power Speed</b>	1500/rpm
<b>Rated Speed</b>	1700/min
<b>Emissions</b>	U.S. EPA Tier 4 Final, EU Stage V, and Japan 2014 emission standards, Brazil MAR-1 and China Nonroad Stage IV emission standards, equivalent to U.S. EPA Tier 3 and EU Stage IIIA, and U.S. EPA Tier 2 and EU Stage II
<b>Bore</b>	5.7 in
<b>Stroke</b>	7.2 in
<b>Displacement</b>	1105 in <sup>3</sup>
<b>Peak Torque - 1,200 rpm</b>	2230 lb/ft
<b>Torque Rise</b>	58 %

## Operating Specifications

<b>Operating Weight</b>	112574 lb
<b>Rated Payload - Quarry Face</b>	12.5 t

<b>Rated Payload - Loose Material</b>	16 t
<b>Bucket Capacity Range</b>	4.7-13 m3 (6.2-17 yd3)
<b>Cat Truck Match - Standard</b>	770 ~ 772
<b>Cat Truck Match - High Lift</b>	773 ~ 775

## Transmission

<b>Transmission Type</b>	Cat planetary powershift
<b>Forward - 1</b>	4 mile/h
<b>Forward - 2</b>	7.2 mile/h
<b>Forward - 3</b>	12.7 mile/h
<b>Forward - 4</b>	21.6 mile/h
<b>Reverse - 1</b>	4.7 mile/h
<b>Reverse - 2</b>	8.3 mile/h
<b>Reverse - 3</b>	14.4 mile/h
<b>Direct Drive - Forward 1</b>	Lock-up disabled
<b>Direct Drive - Forward 2</b>	7.8 mile/h
<b>Direct Drive - Forward 3</b>	13.9 mile/h
<b>Direct Drive - Forward 4</b>	24.4 mile/h
<b>Direct Drive - Reverse 1</b>	5 mile/h
<b>Direct Drive - Reverse 2</b>	8.9 mile/h

Direct Drive - Reverse 3

15.8 mile/h

## 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	153 gal/min
Relief Valve Setting - Lift/Tilt	4757 psi
Cylinders, Double Acting - Lift, Bore and Stroke	210 mm × 1050 mm (8.7 in × 41.3 in)
Cylinders, Double Acting - Tilt, Bore and Stroke	269 mm × 685 mm (8.7 in × 27 in)
Pilot System	Variable displacement piston
Relief Valve Setting - Main	551 psi

## Hydraulic Cycle Time (1,400-1,860 Rpm)

Rack Back	4.5 s
Raise	8 s
Dump	2.2 s
Lower Float Down	3.5 s
Total Hydraulic Cycle Time - Empty Bucket	18.2 s

## Hydraulic System - Steering

Steering System - Circuit	Pilot, load sensing
Steering System - Pump	Piston, variable displacement
Maximum Flow	71.3 gal/min

Relief Valve Setting - Steering	4351 psi
Total Steering Angle	86 °
Steering Cycle Times - High Idle	3.4 s
Steering Cycle Times - Low Idle	5.6 s

## Air Conditioning System

Air Conditioning	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 CO2 equivalent of 2.574 metric tonnes.
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## Axles

Front	Fixed
Rear	Trunnion
Oscillation Angle	13 °

## Brakes

Brakes	ISO 3450:2011
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## Operator's Cab

ROPS/FOPS	ROPS/FOPS meet ISO 3471:2008 and ISO 3449:2005 Level II standards
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## Service Refill Capacities

Fuel Tank	188 gal (US)
Cooling System	31.7 gal (US)
Coolant (Validated by Test Cell Fill Quantities)	33 gal (US)
Crankcase	15.9 gal (US)
Diesel Exhaust Fluid Tank	8.7 gal (US)

Transmission	31.7 gal (US)
Transmission - Validated by Test Cell Fill Quantities	29 gal (US)
Differential - Final Drives - Front	49.1 gal (US)
Differential - Final Drives - Rear	49.1 gal (US)
Hydraulic System Factory Fill	125.5 gal (US)
Hydraulic System - Tank Only	63.4 gal (US)

## Sound Performance - Tier 4 Final / Stage V - Standard

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

## Sound Performance - Tier 3 / Stage III - Standard

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

## Dimensions (Approximate) - Standard Lift Linkage

Ground to Top of ROPS	13.8 ft
Ground to Top of Exhaust Stacks	14.8 ft
Ground to Top of Hood	10.9 ft
Rear Axle - Centerline to Bumper	10.5 ft
Front Axle Centerline to Bucket Tip	14 ft
Wheel Base	14.9 ft
Maximum Overall Length	39.3 ft

Ground to Lower Hitch Clearance	1.9 ft
Clearance at Maximum Lift	11.9 ft
B-Pin Height - Maximum Lift	18 ft
Maximum Overall Height - Bucket Raised	24.5 ft
Reach - Maximum Lift	6.5 ft

## Dimensions (Approximate) - High Lift Linkage

Ground to Top of ROPS	13.8 ft
Ground to Top of Exhaust Stacks	14.8 ft
Ground to Top of Hood	10.9 ft
Rear Axle - Centerline to Bumper	10.5 ft
Front Axle Centerline to Bucket Tip	15.3 ft
Wheel Base	14.9 ft
Maximum Overall Length	40.7 ft
Ground to Lower Hitch Clearance	1.9 ft
Clearance at Maximum Lift	13.3 ft
B-Pin Height - Maximum Lift	19.3 ft
Maximum Overall Height - Bucket Raised	25.8 ft
Reach - Maximum Lift	6.8 ft

## Buckets

Bucket Capacities	4.7-13 m3 (6.2-17 yd3)
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# 988 Standard Equipment

## NOTE

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

## ELECTRICAL

Alarm, back-up  
Alternator, single 150 amp  
Batteries, dry  
Converter, 10/15 amp, 24V to 12V  
Lighting system (halogen, work lights, access and service platform lighting)  
Starting and charging system, 24V  
Jump start receptacle  
Starter lockout in bumper  
Transmission lockout in bumper

## OPERATOR ENVIRONMENT

Graphical Information Display, displays real time operating information, performs calibrations and customizes operator settings  
Air conditioner  
Cat Vision, rear vision camera system  
Cab, sound suppressed and pressurized, integrated rollover 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  
Heater, defroster  
Horn, electric  
Instrumentation, gauges: – Coolant temperature – Engine hour meter – Hydraulic oil temperature – Powertrain oil temperature  
Light, cab, dome  
Lunchbox, beverage holders  
Mirrors, rearview (externally mounted)  
Rimpull Control System  
Seat, deluxe  
Seat belt minder  
Seat belt, retractable, 76 mm (3 in) wide  
STIC Control System  
UV glass  
Transmission 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  
Lights, directional

## POWER TRAIN

Brakes, oil-cooled, multi-disc, service/secondary

Case drain screens  
Crankcase guard  
Electro hydraulic parking brake  
Engine, C18 MEUI diesel, turbocharged/aftercooled  
Ground level engine shutoff  
Turbine precleaner, engine air intake  
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 powershift, 4F/3R electronic control  
Manual switch and automatic fuel priming  
Cat Production Measurement ready

## **OTHER**

Automatic bucket lift kickout/positioner  
Base machine price includes a rim allowance  
Hydraulically driven demand fan  
Couplings, Cat O-ring face seals  
Doors, service access (locking)  
Ecology drains for engine, radiator, hydraulic tank  
Fuel tank, 712 L (188 gal)  
Hitch, drawbar with pin  
Hoses, Cat XT™  
Hydraulic, steering and brake filtration/screening system  
Cat Clean Emission Module  
Oil sampling valves  
Premixed 50% concentration of extended life coolant with freeze protection to -34° C (-29° F)  
Rear access to cab and service platform  
Steering, load sensing  
Toe kicks  
Vandalism protection caplocks

## **988 Optional Equipment**

## **NOTE**

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

## **POWER TRAIN**

-50° C (-58° F) antifreeze  
Engine oil change system, high speed, Wiggins  
High ambient cooling – software  
Cat Production Measurement

## **OPERATOR ENVIRONMENT**

Cab precleaner



AM/FM/CD/MP3 radio  
Satellite Sirius radio with bluetooth  
LED warning strobe  
CB radio ready  
Window pull down visor  
Handrail mounted mirrors

## **ADDITIONAL EQUIPMENT**

Additional counterweight  
Front and rear roading fenders  
Fast fill fuel system (Shaw-Aero)  
Cold Weather Starting (extra starter plus two batteries), engine block heater 120V or 240V, heated fuel lines

## **OTHER OPTIONAL CONFIGURATIONS**

Aggregate Handler