

# Cat<sup>®</sup> 428

## BACKHOE LOADER



The Cat<sup>®</sup> 428 Backhoe Loader delivers exceptional performance, a superior hydraulic system and spacious operator station. The 428 features the following:

- **Ergonomic Operator Station** – Ample legroom inside the cab makes rotating the seat simple. The air suspension seat provides comfort to the operator while roading.
- **Joystick Controls** – Pilot joysticks provide operator comfort, reduced fatigue and increased productivity. Proportional Thumb Rollers on the Pilot Joysticks places E-Stick and Rear Auxiliary Controls at the operator's fingertips.
- **Load Sensing Hydraulics** – The Cat Backhoe Loader's load sensing piston pump provides full hydraulic lifting and digging forces at any engine speed. Variable flow pump matches hydraulic power to work demands.
- **Powershift Transmission** – A Four Speed Powershift Transmission makes shifting gears smooth and as simple as twisting the Powershuttle Lever.
- **Machine Performance** – The proven Cat C3.6 engine delivers solid performance and meets U.S. EPA Tier 4 Final/EU Stage V emission standards by utilizing Selective Catalytic Reduction technology with a diesel oxidation catalyst. The system allows the operator to disconnect the machine, even while the diesel exhaust fluid is being purged from the system.
- **Machine Versatility** – The Cat Backhoe Loader with Integrated Tool Carrier (IT Coupler) will be the most versatile machine on the job site providing quick connection to a variety of Cat Attachments.
- **Cat Attachments** – A large portfolio of Backhoe Loader Attachments, including but not limited to, Quick Couplers, assorted Buckets, and Brooms are available for field installation. Cat Backhoe Loaders will be "Dirt Ready" upon delivery.

## Specifications

### Engine

Engine	C3.6 70 kW (97 hp) Electronic Turbo Intercooled	
Gross Power (SAE J1995)	71 kW	97 hp
Engine Power (ISO 14396)	70 kW	95 hp
Rated Net Power @ 2,200 rpm		
SAE J1349	64 kW	86 hp
ISO 9249	63 kW	86 hp
Net Peak Power @ 2,200 rpm		
SAE J1349	64 kW	86 hp
ISO 9249	63 kW	86 hp
Dimensions		
Bore	98 mm	3.86 in
Stroke	120 mm	4.72 in
Displacement	3.6 L	220 in <sup>3</sup>
Net Torque Rise @ 1,500 rpm	43%	
Net Peak Torque SAE J1349	395 N·m	292 lb·ft
Power Rating Conditions		
No de-rating required up to	3048 m	10,000 ft

### Weights\*

Operating Weight* (estimated)	9453 kg	20,840 lb
Operating Weight (maximum) (ROPS capacity)	11 000 kg	24,251 lb
Cab, ROPS/FOPS	Standard	
Powershift Transmission	Standard	
Ride Control	Standard	
Air Conditioning	Standard	
All-Wheel Drive	Standard	
Loader QC	Standard	

\*Machine configuration: 14'0" extendible stick hoe, deluxe cab, 4WD powershift transmission, 1.03 m<sup>3</sup> (1.35 yd<sup>3</sup>) MP (Multi Purpose) loader bucket, 610 mm (24 in) heavy duty hoe bucket, front 340/80-20 and rear 480/80-26 tires, 460 kg (1,015 lb) counterweight, power side shift, full fuel tank.

- Engine meets Tier 4 Final/Stage V emission standards.



# 428 Backhoe Loader

## Transmission\*

### Power-Shift Transmission – Standard

Forward – 1st	5.9 km/h	3.7 mph
2nd	9.4 km/h	5.8 mph
3rd	20 km/h	12 mph
4th	40 km/h	25 mph
Reverse – 1st	5.9 km/h	3.7 mph
2nd	12 km/h	7.6 mph
3rd	27 km/h	17 mph

\*Travel speeds of backhoe loader at full throttle, when equipped with 440/80/28 tires.

## Axle Ratings

Front Axle, AWD		
Static	23 500 kg	51,808 lb
Dynamic	9000 kg	19,841 lb
Rear Axle		
Static	26 500 kg	58,422 lb
Dynamic	10 000 kg	22,046 lb

## Hydraulic System

Type	Closed Center	
Pump Type	Variable-flow, Axial Piston	
Pump Capacity @ 2,200 rpm	160 L/min	42 gal/min
System Pressure		
Backhoe	25 000 kPa	3,626 psi
Loader	25 000 kPa	3,626 psi

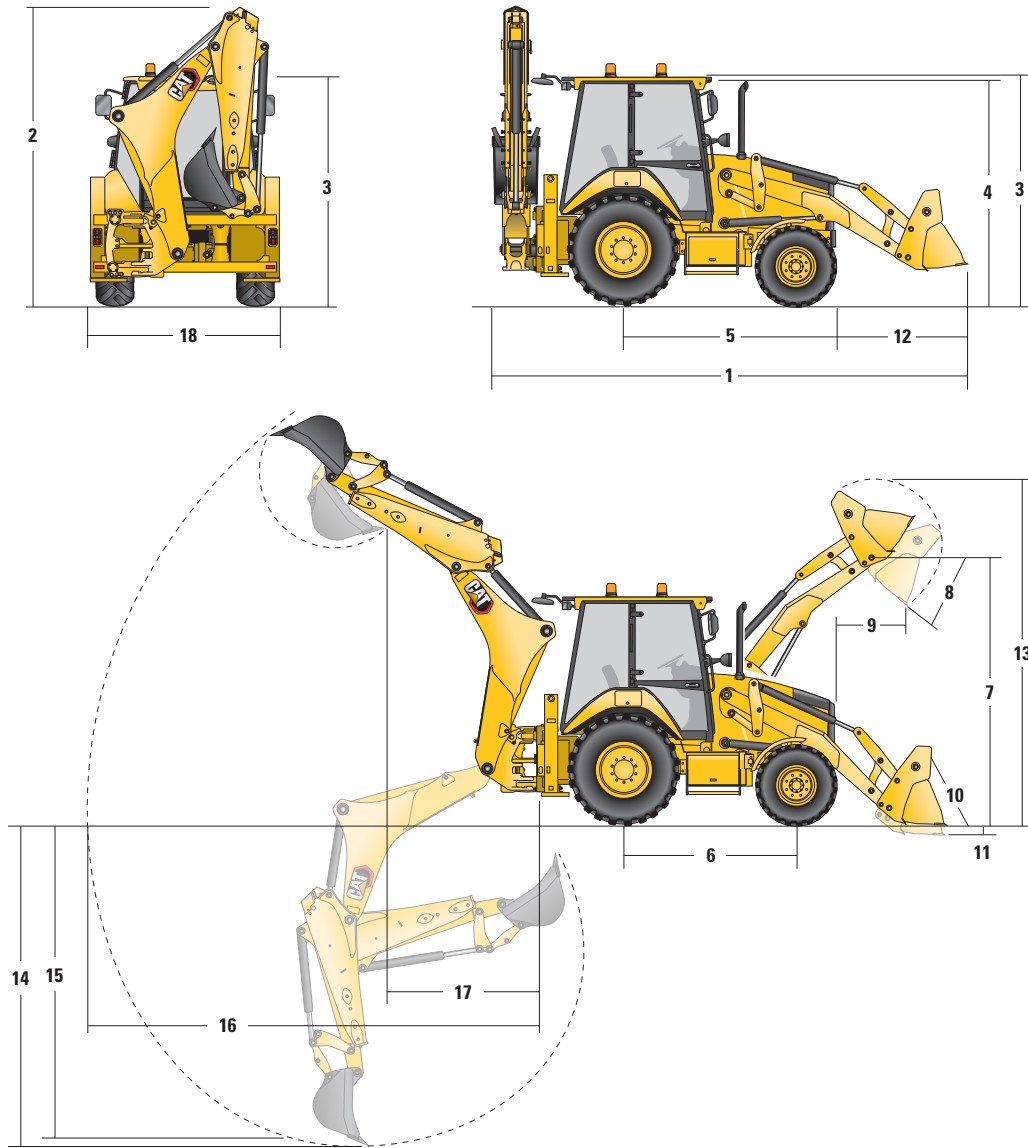
## Steering

Type	Front Wheel Steering	
Power Steering	Hydrostatic	
One Double-Acting Cylinder		
Bore	65 mm	2.6 in
Stroke	106 mm	4.2 in
Rod Diameter	40 mm	1.6 in
Axle Oscillation	11°	
Turning Circle – (inner wheel not braked)		
Outside Front Wheels	8.205 m	26'11"
Outside Widest Loader Bucket	10.745 m	35'3"

## Service Refill Capacities

Cooling System with Air Conditioning	18.0 L	4.8 gal
Fuel Tank	160.0 L	42.3 gal
Engine Oil with Filter	9.0 L	2.4 gal
Diesel Exhaust Fluid (DEF)	19.0 L	5.0 gal
Transmission – Power Shift		
AWD	19.0 L	5.0 gal
Rear Axle	16.0 L	4.2 gal
Planetaries	1.7 L	0.4 gal
Front Axle (AWD)	11.0 L	2.9 gal
Planetaries	0.7 L	0.2 gal
Hydraulic System	95.0 L	25.1 gal
Hydraulic Tank	42.0 L	11.1 gal

## Machine Dimensions



### Parallel Lift Loader

	GP – 1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> )		MP – 1.03 m <sup>3</sup> (1.35 yd <sup>3</sup> )		MP with Forks – 1.03 m <sup>3</sup> (1.35 yd <sup>3</sup> )	
	mm	in	mm	in	mm	in
<b>1</b> Overall Length in Rooding Position (15 degree approach angle and hoe stowed to side) S-Stick	5763 mm	18'11"	5744 mm	18'10"	5744 mm	18'10"
Overall Transportation Length (loader on ground and hoe stowed to side) S-Stick	5775 mm	18'11"	5731 mm	18'10"	5731 mm	18'10"
<b>2</b> Overall Transportation Height (standard stick)	3806 mm	12'6"	3806 mm	12'6"	3806 mm	12'6"
Overall Width (excluding loader bucket)	2352 mm	7'9"	2352 mm	7'9"	2352 mm	7'9"
<b>3</b> Height to Top of Cab/Canopy	2822 mm	9'3"	2822 mm	9'3"	2822 mm	9'3"
<b>4</b> Height to Top of Exhaust Stack	2715 mm	8'11"	2715 mm	8'11"	2715 mm	8'11"
<b>5</b> Rear Axle Centerline to Front Grill	2705 mm	8'11"	2705 mm	8'11"	2705 mm	8'11"
<b>6</b> Wheelbase 2WD/4WD	2200 mm	7'3"	2200 mm	7'3"	2200 mm	7'3"

Dimensions and performance specifications shown are for machines equipped with 340/80-18 front tires, 440/80-28 rear tires, standard cab, standard stick, 600 mm (24 in) standard duty bucket, and 1.03 m<sup>3</sup> (1.35 yd<sup>3</sup>) MP loader bucket and standard equipment unless otherwise specified.

# 428 Backhoe Loader Specifications

## Loader Bucket Dimensions and Performance

	Parallel Lift Loader					
	GP – 1.0 m <sup>3</sup> (1.31 yd <sup>3</sup> )		MP – 1.03 m <sup>3</sup> (1.35 yd <sup>3</sup> )		MP with Forks – 1.03 m <sup>3</sup> (1.35 yd <sup>3</sup> )	
Capacity (SAE rated)	1.0 m <sup>3</sup>	1.31 yd <sup>3</sup>	1.03 m <sup>3</sup>	1.35 yd <sup>3</sup>	1.03 m <sup>3</sup>	1.35 yd <sup>3</sup>
Width	2406 mm	7'11"	2406 mm	7'11"	2406 mm	7'11"
Lift Capacity at Maximum Height	3728 kg	8,219 lb	3488 kg	7,690 lb	3303 kg	7,282 lb
Lift Breakout Force	54 791 N	12,318 lbf	53 252 N	11,972 lbf	51 536 N	11,586 lbf
Tilt Breakout Force	54 292 N	12,205 lbf	59 845 N	13,454 lbf	58 900 N	13,241 lbf
Tipping Load at Breakout Point	6627 kg	14,610 lb	6604 kg	14,559 lb	6448 kg	14,215 lb
<b>7</b> Maximum Hinge Pin Height	3462 mm	11'4"	3462 mm	11'4"	3462 mm	11'4"
<b>8</b> Dump Angle at Full Height	45°		45°		45°	
Dump Height at Maximum Angle	2755 mm	9'0"	2780 mm	9'1"	2780 mm	9'1"
<b>9</b> Dump Reach at Maximum Angle	805 mm	2'8"	732 mm	2'5"	732 mm	2'5"
<b>10</b> Maximum Bucket Rollback at Ground Level	38°		39°		39°	
<b>11</b> Digging Depth	99 mm	3.9"	132 mm	5.2"	132 mm	5.2"
Maximum Grading Angle	113°		116°		116°	
<b>12</b> Grill to Bucket Cutting Edge, Carry Position	1488 mm	4'11"	1471 mm	4'10"	1471 mm	4'10"
<b>13</b> Maximum Operating Height	4328 mm	14'2"	4365 mm	14'4"	4365 mm	14'4"
Weight (does not include teeth)	438 kg	966 lb	674 kg	1,486 lb	860 kg	1,896 lb

## Backhoe Dimensions and Performance

	Standard Stick – 4.3 m (14'0")		E-Stick Retracted – 4.3 m (14'0")		E-Stick Extended – 4.3 m (14'0")	
	<b>14</b> Digging Depth, SAE Maximum	4298 mm	14'1"	4301 mm	14'1"	5292 mm
Digging Depth, Manufacturer's Maximum	4778 mm	15'8"	4782 mm	15'8"	5700 mm	18'8"
<b>15</b> Digging Depth, 2400 mm (7'10") Flat Bottom	3915 mm	12'10"	3919 mm	12'10"	4987 mm	16'4"
Digging Depth, 600 mm (24") Flat Bottom	4255 mm	14'0"	4259 mm	14'0"	5254 mm	17'3"
Digging Depth, 600 mm (24") Flat Bottom, Manufacturer's	4753 mm	15'7"	4758 mm	15'7"	5700 mm	18'8"
Reach from Rear Axle Centerline at Ground Line	6741 mm	22'1"	6746 mm	22'2"	7672 mm	25'2"
<b>16</b> Reach from Swing Pivot at Ground Line	5651 mm	18'6"	5656 mm	18'7"	6582 mm	21'7"
Maximum Operating Height	5665 mm	18'7"	5666 mm	18'7"	6265 mm	20'7"
Loading Height	3991 mm	13'1"	4000 mm	13'1"	4599 mm	15'1"
<b>17</b> Loading Reach	1690 mm	5'7"	1639 mm	5'5"	2501 mm	8'2"
Swing Arc	180°		180°		180°	
Bucket Rotation	205°		205°		205°	
<b>18</b> Stabilizer Overall Width	2352 mm	7'9"	2352 mm	7'9"	2352 mm	7'9"
Bucket Dig Force	63 447 N	14,263 lbf	63 419 N	14,257 lbf	63 419 N	14,257 lbf
Stick Dig Force	36 232 N	8,145 lbf	36 899 N	8,295 lbf	26 976 N	6,064 lbf

## STANDARD EQUIPMENT

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- Cab, Deluxe
- All Wheel Drive
- 100% Differential Lock
- Hydraulic Boosted Brakes
- Tires 26 inch
- Engine, C3.6 70 kW
- Battery, 750 CCA, Heavy Duty
- Hinged Radiator Pack
- Auto Idle
- Eco Mode
- Standard Mode
- Standard + Mode
- Engine Block Heater
- Transmission Neutralizer
- Transmission, Four Speed Powershift
- Torque Converter
- Controls, Pilot Joysticks
- Pattern Selector (ISO/SAE)
- Power Steering, Hydrostatic
- Variable Displacement Piston Pump
- Hydraulic Quick Disconnects
- Side Shift Lock
- Hydraulic Oil Cooler
- Hydraulic Lines, Two Way
- Loader Kickout, Float
- Loader Kickout, Return to Dig
- Powered Side Shift
- Ride Control
- Continuous Flow
- Programmable Auxiliary Flow
- Stick Extending, 4.3 m (14'0")
- Loader Quick Coupler, Hydraulic
- Transport Lock, Swing
- Transport Lock, Boom
- Counterweight, 460 kg (1,015 lbs)
- Street Pads, Stabilizers
- External Tool Box
- Transport Tie Downs
- Display Screen, Soft Key
- Product Link Cellular
- Reversing Alarm
- Stabilizer Alarm





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