

428

Backhoe Loader



C3.6 Stage V Engine

The Cat® C3.6 engine meets EU Stage V emission standards while delivering up to a 10% fuel efficiency improvement compared to the previous model. The aftertreatment system is completely maintenance free with Selective Catalytic Reduction (SCR), Diesel Exhaust Fluid (DEF) and a fit for life Diesel Particulate Filter (DPF) system. This new engine delivers power and torque density as per the C4.4 engine installed in the previous model.

Improved Operator Comfort

Pilot hoe controls are an optional upgrade on your 428 (not available on 55 kW machine). These controls mounted on fully adjustable pods offer the operator finer controls while giving improved ergonomics and comfort.

Greater Lifting Performance

The option of a larger boom cylinder will give greater lifting performance on the back of the 428 machine.

Powershift Transmission Option

The four speed powershift transmission, improves operator comfort by utilizing the Power Shuttle Lever to shift gears. There is no floor-mounted gear shift lever, adding to the already spacious work environment.

Interactive Display Screens

The choice of either a soft key or touchscreen (not available on 55 kW machine) display screen gives the operator information at the touch of their fingertips. Machine Security Software is embedded into the display screen as well as notifications on service intervals.

Excavator Style Boom

The Excavator Style Boom is iconic to the Cat backhoe loader (BHL). This gives the operator more dig depth and reach when working around obstacles meaning less repositioning of the machine is required.

Powerful and Efficient Hydraulics

The load sensing hydraulic system coupled with a variable displacement piston pump deliver powerful hydraulics when the operator really requires it.

Power Management Modes

The operator can choose between Eco Mode, Standard Mode or Standard Plus dependent on job and site conditions. Eco Mode will save the operator fuel, lowering their owning and operating costs, where Standard Plus Mode will give more speed and power when time or tough ground conditions demand this.

Product Link™

Product Link™ comes as standard on the Cat BHL. Many features exist through Product Link including fuel burn and location allowing the owner to access all data to help increase productivity while reducing costs.

428 Backhoe Loader Specifications

Engine

	EU Stage V (Standard)	EU Stage V (Optional)	EU Stage V (Optional)
Engine	C3.6 55 kW Electronic Turbo Intercooled	C3.6 70 kW Electronic Turbo Intercooled	C3.6 74.5 kW Electronic Turbo Intercooled
Ratings at 2,200 rpm			
Gross Power SAE J1995	56 kW/76 hp	71 kW/97 hp	76 kW/103 hp
Gross Power ISO 14396	55 kW/75 hp	70 kW/95 hp	74 kW/101 hp
Net Power Rating @ 2,200 rpm			
SAE J1349	52 kW/70 hp	64 kW/86 hp	68 kW/92 hp
ISO 9249	51 kW/70 hp	63 kW/86 hp	68 kW/92 hp
Torque Rise (net)	86% @ 1,200 rpm	43% @ 1,500 rpm	41% @ 1,500 rpm
Net Torque – SAE J1349	418 N·m	395 N·m	436 N·m
Bore	98 mm	98 mm	98 mm
Stroke	120 mm	120 mm	120 mm
Displacement	3.6 L	3.6 L	3.6 L

- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator.
- No derating required up to 3048 m altitude. Auto derate protects hydraulic and transmission systems.
- Meets EU Stage V emission standards.

Transmission

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

	Power Shuttle Transmission (Standard)	Powershift Transmission (Optional)	Auto-Shift Transmission with Lock-Up Torque Converter (Optional)
Forward			
1st	5.6 km/h	5.9 km/h	5.9 km/h
2nd	9.2 km/h	9.5 km/h	9.5 km/h
3rd	21 km/h	20 km/h	12 km/h
4th	37 km/h	40 km/h	20 km/h
5th	—	—	27 km/h
6th	—	—	40 km/h
Reverse			
1st	5.6 km/h	5.9 km/h	5.9 km/h
2nd	9.2 km/h	12.4 km/h	12 km/h
3rd	21 km/h	27 km/h	27 km/h
4th	37 km/h	—	—

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Axle Ratings

Front Axle, AWD	
Static	12 000 kg
Dynamic	6000 kg
Rear Axle	
Static	13 000 kg
Dynamic	7000 kg

Weights*

Operating Weight (estimated) (55 kW)*	8131 kg
Operating Weight (estimated) (70 kW)*	8206 kg
Operating Weight (maximum) (ROPS capacity)	11 000 kg
Cab, ROPS/FOPS	Standard
Auto-Shift Transmission	96 kg
Ride Control	15 kg
Air Conditioning	45 kg
MP Bucket (1.03 m ³)	
with Fold-over Forks	860 kg
without Fold-over Forks	674 kg
Loader QC	185 kg
Extendible Stick (excludes front counterweight)	208 kg
Counterweights	
Base	115 kg
Stackable, One	250 kg
Maximum	485 kg
Minimum Counterweight Recommendations – Standard Stick	
Loader Bucket	Power Train
GP	AWD 115 kg
MP	AWD 0 kg
Minimum Counterweight Recommendations – Extendible Stick	
Loader Bucket	Power Train
GP	AWD 460 kg
MP	AWD 0 kg
Total Gross Weight Not to Exceed	11 000 kg

*Machine Configuration – standard HRC engine; standard stick hoe; standard cab with A/C; AWD standard shift transmission; 1.03 m³ MP loader bucket; 600 mm standard duty hoe bucket; 340/80-18 and 440/80-28 tires; no counterweight; 80 kg operator; full fuel tank.

Hydraulic System

Type	Closed Center
Pump Type	Variable-Flow, Axial Piston
Pump Capacity @ 2,200 rpm	160 L/min
System Pressure	
Backhoe	250 bar
Loader	250 bar

Steering

Type	Front Wheel
Power Steering	Hydrostatic
AWD Cylinder, One (1) Double-acting	
Bore	65 mm
Stroke	106 mm
Rod Diameter	40 mm

Turning Circle

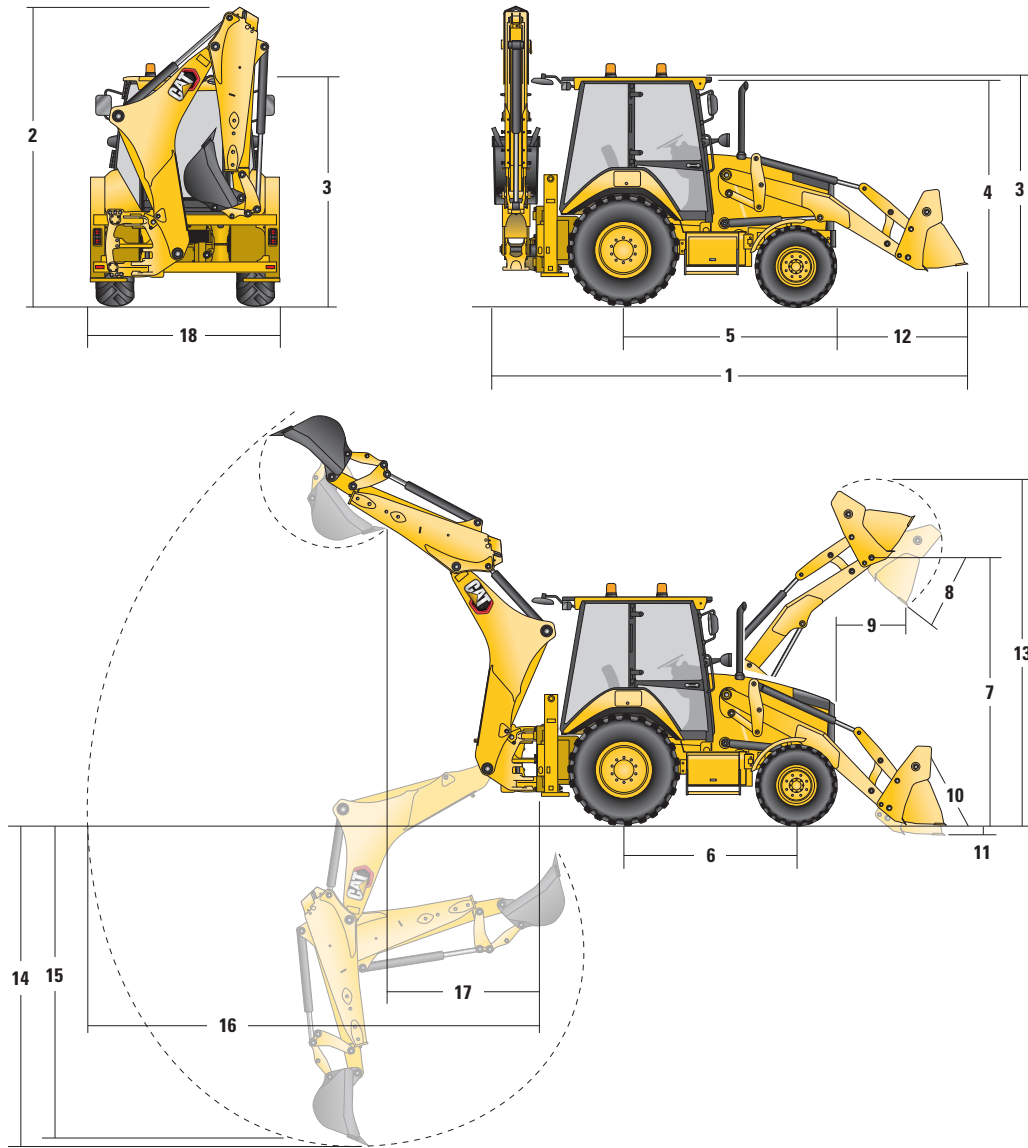
2WD/AWD (inner wheel not braked)	
Outside Front Wheels	8.205 m
Outside Widest Loader Bucket	10.745 m

Service Refill Capacities

Cooling System with A/C	18 L
Fuel Tank	160 L
Engine Oil with Filter	9 L
Diesel Exhaust Fluid	19 L
Transmission (Power Shuttle)	
2WD	18 L
AWD	18 L
Transmission (Powershift)	
AWD	19 L
Rear Axle	16 L
Planetaries	1.7 L
Front Axle (AWD)	11 L
Planetaries	0.7 L
Hydraulic System	95 L
Hydraulic Tank	42 L

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Machine Dimensions



Parallel Lift Loader

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

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 standard duty bucket, and 1.03 m³ 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 ³	MP – 1.03 m ³	MP with Forks – 1.03 m ³
Capacity (SAE rated)	1.0 m ³	1.03 m ³	1.03 m ³
Width	2406 mm	2406 mm	2406 mm
Lift Capacity at Maximum Height	3728 kg	3488 kg	3303 kg
Lift Breakout Force	54 791 N	53 252 N	51 536 N
Tilt Breakout Force	54 292 N	59 845 N	58 900 N
Tipping Load at Breakout Point	6627 kg	6604 kg	6448 kg
7 Maximum Hinge Pin Height	3462 mm	3462 mm	3462 mm
8 Dump Angle at Full Height	45°	45°	45°
Dump Height at Maximum Angle	2755 mm	2780 mm	2780 mm
9 Dump Reach at Maximum Angle	805 mm	732 mm	732 mm
10 Maximum Bucket Rollback at Ground Level	38°	39°	39°
11 Digging Depth	99 mm	132 mm	132 mm
Maximum Grading Angle	113°	116°	116°
12 Grill to Bucket Cutting Edge, Carry Position	1488 mm	1471 mm	1471 mm
13 Maximum Operating Height	4328 mm	4365 mm	4365 mm
Weight (does not include teeth)	438 kg	674 kg	860 kg

Backhoe Dimensions and Performance

	Standard Stick – 4.3 m	E-Stick Retracted – 4.3 m	E-Stick Extended – 4.3 m
14 Digging Depth, SAE Maximum	4298 mm	4301 mm	5292 mm
Digging Depth, Manufacturer's Maximum	4778 mm	4782 mm	5700 mm
15 Digging Depth, 2400 mm Flat Bottom	3915 mm	3919 mm	4987 mm
Digging Depth, 600 mm Flat Bottom	4255 mm	4259 mm	5254 mm
Digging Depth, 600 mm Flat Bottom, Manufacturer's	4753 mm	4758 mm	5700 mm
Reach from Rear Axle Centerline at Ground Line	6741 mm	6746 mm	7672 mm
16 Reach from Swing Pivot at Ground Line	5651 mm	5656 mm	6582 mm
Maximum Operating Height	5665 mm	5666 mm	6265 mm
Loading Height	3991 mm	4000 mm	4599 mm
17 Loading Reach	1690 mm	1639 mm	2501 mm
Swing Arc	180°	180°	180°
Bucket Rotation	205°	205°	205°
18 Stabilizer Overall Width	2352 mm	2352 mm	2352 mm
Bucket Dig Force	63 447 N	63 419 N	63 419 N
Stick Dig Force	36 232 N	36 899 N	26 976 N

428 Standard and Optional Equipment

Standard and Optional Equipment

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

	Standard	Optional		Standard	Optional
Cab ROPS and FOPS			Hydraulics		
Cab, Standard	✓		Variable Displacement Piston Pump	✓	
Cab, Deluxe		✓	Hydraulic Quick Disconnects		✓
Tires/Steering/Brakes			Side Shift Lock	✓	
All Wheel Drive	✓		Hydraulic Oil Cooler	✓	
100% Differential Lock	✓		Hydraulic Lines, One Way		✓
Hydraulic Boosted Brakes	✓		Hydraulic Lines, Two Way		✓
Tires 26 inch	✓		Loader Kickout, Float	✓	
Tires 28 inch		✓	Loader Kickout, Return to Dig	✓	
Engine/Transmission			Powered Side Shift		✓
Engine, C3.6 55 kW	✓		Ride Control		✓
Engine, C3.6 70 kW		✓	Continuous Flow		✓
Engine, C3.6 74.5 kW		✓	Programmable Auxiliary Flow		✓
Battery, 750 CCA, Standard	✓		Booms, Sticks and Linkages		
Battery, 750 CCA, Heavy Duty		✓	Stick Standard, 4.3 m	✓	
Hinged Radiator Pack	✓		Stick Extending, 4.3 m		✓
Auto Idle	✓		Hoe Quick Coupler, Mechanical		✓
Eco Mode		✓	Hoe Quick Coupler, Hydraulic		✓
Standard Mode	✓		Loader Quick Coupler, Hydraulic		✓
Standard + Mode	✓		Transport Lock, Swing	✓	
Engine Block Heater		✓	Transport Lock, Boom	✓	
Transmission Neutralizer	✓		Other Attachments		
Transmission, Four Speed Manual	✓		Counterweight, 115 kg		✓
Transmission, Four Speed Powershift (not on 55 kW engine)		✓	Counterweight, 240 kg		✓
Transmission, Six Speed with Lock-Up Torque Converter (not on 55 kW engine)		✓	Counterweight, 460 kg		✓
Controls			Front Fenders		✓
Controls, Mechanical Levers	✓		Street Pads, Stabilizers		✓
Controls, Pilot Joysticks		✓	External Tool Box	✓	
Pattern Selector (ISO/SAE)		✓	Transport Tie Downs	✓	
Power Steering, Hydrostatic	✓		Electrical		
			Display Screen, Soft Key	✓	
			Display Screen, Touchscreen		✓
			Product Link Cellular		✓
			Product Link Satellite		✓
			Reversing Alarm	✓	
			Stabilizer Alarm	✓	
			Beacon, Rotating		✓
			Beacon, Strobe		✓

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AEHQ8249 (01-2020)
Build Number: 07
(Europe)

