

428C

Backhoe Loader



Cat® 3054 Diesel Engine

Gross power	59 kW/78 hp
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Net power	56 kW/75 hp
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Gross power (turbo)	63 kW/84 hp
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Net power (turbo)	60 kW/80 hp
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Operating Weight (standard)	7415 kg
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Backhoe Digging Depth

Standard stick	4811 mm
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Extendible stick	5858 mm
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Cat 428C Backhoe Loader

The Caterpillar® C-Series backhoe loader – the standard for performance, versatility, and operator comfort.

Loader versatility

The Cat parallel loader offers many important advantages.

- Maximum lift and breakout forces
 - Divergent lift arms and a low-profile hood for maximum visibility to the implement
 - Self-leveling and return-to-dig systems for ease-of-operation
 - Optional Quick Coupler provides rapid attachment changes and compatibility with selected Cat integrated toolcarrier attachments
- pg. 5

Operator station

A new level of comfort and visibility has been achieved in the 428C cab.

The operator has total machine control in a comfortable environment.

- Spacious operator station
 - Convenient personal storage areas
 - Large side windows open 180 degrees to maximize visibility and ventilation
 - Low-effort controls placed within natural reach for operator comfort
 - ✓ ■ *Air-suspension seat for superior ride and greater operator comfort*
- pg. 6-7

Caterpillar 3054 T engine

- Proven reliability
 - Turbocharged
 - Durable gear-driven water pump
 - Thermal starting aid for easier cold-weather starting
 - Parts commonality with other Cat machines
 - Low cost-per-hour
- pg. 8-9

The Cat 428C – More than a machine. A partner.

The C-Series has become the benchmark for performance, versatility, and ergonomics in the backhoe-loader industry. With this remarkable machine, you'll load faster, dig deeper and lift higher, all in the comfort of the C-Series cab.

Find out what the excitement is all about.

Ask your Caterpillar dealer about the 428C.

Your backhoe loader is ready when you are!



Backhoe versatility and performance

- ✓ ■ *Large-bore boom cylinder for excellent lift capacity*
- ✓ ■ *New heavy-duty boom design for superior strength and balance*
 - Excavator-style backhoe reaches over obstacles; provides faster, easier truck loading
- ✓ ■ *Optional backhoe Quick Coupler has high-rotation design for excellent vertical wall digging performance*
pg. 4 and 10

Load-sensing hydraulic system

- Power where you need it, when you need it, at any engine speed
- Cat exclusive, high-pressure XT hose
- O-ring face seal fittings for reliability
- ✓ ■ *Dual-setting torque limiter automatically optimizes hydraulics for backhoe or loader applications*
pg. 4 and 13

Serviceability

Excellent access and fewer maintenance requirements add up to unparalleled ease of service. **pg. 14**

Other special features

- ✓ ■ *Optional Power-Shift* transmission allows direction and speed changes to be made with a single lever* **pg.12**
- Optional all-wheel drive increases maneuverability and improves loader performance
- Single-location access to service refill points
- Stackable counterweights allow easy adjustment of weight distribution
- Spacious, lockable tool and battery box provides secure tool storage
- Large 128-liter fuel tank extends operating intervals
- ✓ ■ *Optional Caterpillar Ride-Control system cushions loader to smooth the ride* **pg. 4**

* Power Shift available on 60-kW machine only

Cat '5 Star Customer Service'

Turns your investment into profit, from purchase to resale through:

- Equipment Management Services for optimum profit
- Maintenance Services for equipment protection
- Predictive Services for optimum machine availability
- Reconditioning Services for lower repair cost
- Your Caterpillar dealer parts support for satisfaction and peace of mind
pg. 15



✓ *New feature*

New Features

Optional Caterpillar Ride Control for greater operator comfort; increased lift capacity for more aggressive backhoe performance.

Caterpillar Ride-Control system.

A new Ride-Control system is now available. The system incorporates a nitrogen accumulator in the loader lift circuit that smooths the ride in all conditions, including load and carry, or simply moving around the job site. The system is easily engaged by a switch on the front console.

On Power-Shift machines, the Ride Control switch has three positions, ON, OFF and AUTOMATIC.

In the automatic position, the ride control engages automatically as the travel speed increases. At low speed, the system disengages for loading, grading or finishing applications. Ride Control benefits include smoother ride, better material retention during load and carry operations, and increased operator comfort.

Backhoe lift capacity. The C-Series backhoe has even more muscle than ever before. A new, **large-diameter boom cylinder** and a **redesigned boom structure** increases lift capacity, providing superior strength and balance. With this new boom, the operator can move larger loads into the trench, and handle more aggressive trenching jobs.

A new **dual-setting torque limiter** on the hydraulic pump automatically optimizes hydraulics to match your job application. The result is increased capacity and more performance from your backhoe.



Loader

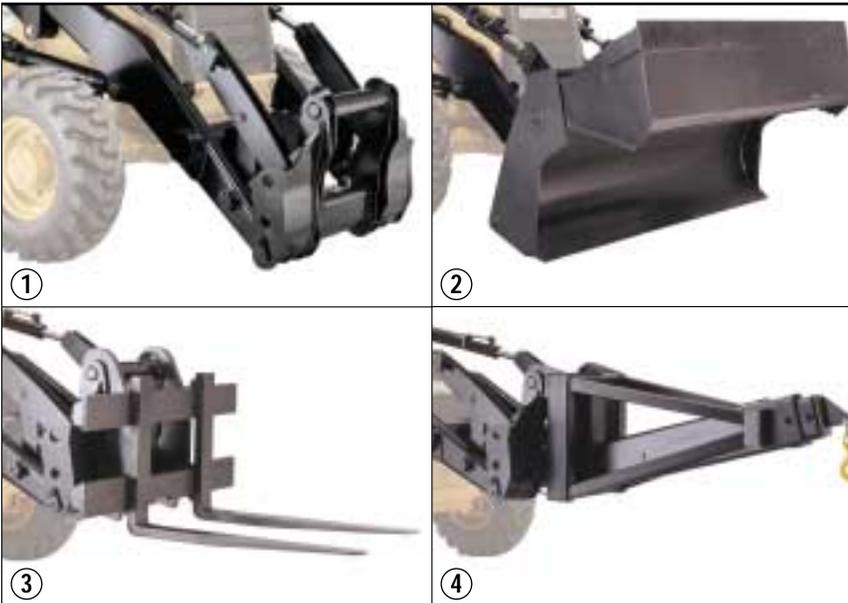
The parallel loader means business – more versatility, more breakout force, more lift capacity.



Loader. The parallel loader provides maximum lift and breakout forces, and **parallel lift** for efficient loading and material handling. A return-to-dig system makes operation easy, and improves cycle times. The optional hydraulic Quick Coupler provides **versatility** and allows quick connection to selected attachments available for the Cat family of integrated toolcarriers. Most attachments can be changed in less than 30 seconds from the comfort of the operator station. The low-profile hood and divergent lift arms enhance **visibility** to the attachments and forward work area. An improved second-gear ratio creates an excellent match between the loader hydraulic system and rimpull for **faster truck loading**.

Loader Attachments

The hydraulic Quick Coupler enhances attachment versatility and provides greater machine utilization.



Loader attachments. One C-Series machine equipped with the optional Quick Coupler can do the job of many. Attachments available through your Caterpillar dealer include pallet forks, material-handling arms, blades, asphalt cutters, sweepers, general-purpose and multi-purpose buckets – just some of the choices you have.

- 1 The hydraulic Quick Coupler is an option with the parallel loader.
- 2 The multi-purpose bucket increases machine utilization.
- 3 Loader forks are easily attached to handle palletized material.
- 4 A material-handling arm adds flexibility for handling non-standard objects.

Operator Station

Designed for maximum visibility, operator comfort, and ease-of-operation.





Visibility. The Cat 428C is specially designed for maximum visibility – all around. The sloping front hood and divergent lift arms allow the operator to see more of the forward work area and loader attachment. And there's no precleaner to look around. Rear visibility continues to be the best in the industry with a narrow boom and a rear window that stows above the operator out of view.

Operator comfort. The cab on the 428C is designed to maximize operator comfort. Features include a new standard **air-suspension seat**, a high-capacity heating/air-conditioning system and fully opening side and rear windows for additional ventilation. The cab roof extends out to help keep the operator dry in rainy weather, and a four-post Rollover Protective Structure (ROPS) provides increased protection. Additional options include AM/FM Stereo/Cassette package, tilt wheel, and circulating fan.

Operator controls. The Cat 428C backhoe loader provides smooth, precise control, and ease-of-operation. Instrumentation is user-friendly and controls are positioned within easy reach of the operator. The Caterpillar variable-flow, load-sensing hydraulic system adjusts flow and pressure to meet work demand. And there's less operator effort, resulting in less fatigue and greater productivity.



Power Train/Chassis

Designed for strength, performance, and versatility.

Caterpillar 3054 T turbocharged engine.

Two versions of the 3054 T engine are offered in the 428C – the standard 56 kW engine and the optional 60 kW engine. The 3054 T is a 4-cylinder, 4-stroke, direct-injection design featuring thermal starting aid as standard equipment. The thermal starting aid provides reliable starting down to -29°C. The Cat 3054 also features a gear-driven water pump, providing better reliability than conventional belt-driven technology.

A dry-type, radial-seal air filter has been designed specifically for this engine. This two-stage filter incorporates the function of the air cleaner and precleaner into a single unit, which eliminates the hood-mounted precleaner.

Axles and brakes. The rear axle is an enclosed design that allows extended operation even in the harshest environments. Multi-disc, hydraulic brakes are oil-immersed and self-adjusting.

Hydraulics. The Caterpillar variable-flow system senses the work demand and adjusts flow and pressure to match it. And Cat XT hoses virtually eliminate downtime from hose failure. If a hose does need replacing, it's fast, easy and requires no special tools.

Caterpillar couplings are equipped with O-ring face seal fittings for long life and less maintenance.



Stackable counterweights allow easy adjustment of weight distribution without having to completely replace an existing counterweight.

Spacious, lockable tool and battery box provides secure tool storage.

Power-Shuttle transmission.

The Power-Shuttle transmission provides four speed selections in a constant mesh synchronized arrangement. Direction and travel speed can be changed on-the-go. Gear selection is made with a floor-mounted shift lever. A rocker switch engages all-wheel drive (AWD) on-the-go, under load.

Power-Shift transmission.

Work faster with the new optional Power-Shift transmission. One lever does it all. A twist-grip mounted on the left side of the steering column changes speed and direction resulting in increased productivity. And there's no floor-mounted shift lever. Available on 60-kW machines only.



Backhoe Performance

The Cat excavator-style backhoe – a proven performer.

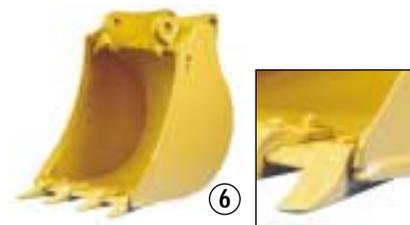
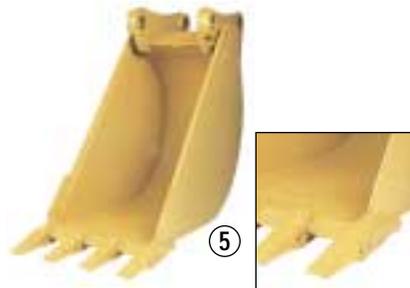
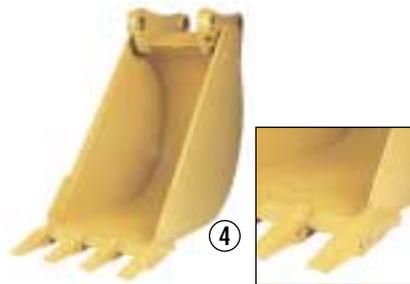
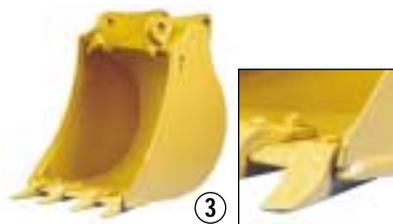


Backhoe buckets. Caterpillar backhoe buckets offer superior value in a highly durable product. These buckets provide industry-leading features:

- A 25-percent thicker cutting edge.
- A larger two-strap tooth adapter distributes the load further back in the bucket and is more resistant to breakage.
- The corner adapter has been moved into the side plate for a stronger, more durable weld joint. This makes the teeth the widest part of the bucket and greatly increases the amount of wear material on the bucket corners.
- More wear material has been added to the side plates for better reinforcement above the cutting edges.
- An identification plate on all buckets now provides bucket specifications, GET sizes, machine compatibility specifications, and a unique ID number for tracking purposes.

Numerous backhoe bucket combinations are offered to match the toughest workplace applications.

All features may not be representative of Standard-Duty Euro bucket and Heavy-Duty Euro bucket.



1 SD (Standard-Duty) Bucket

Used in easy-to-penetrate, low-impact, moderately-abrasive soils.

2 ES (Extreme-Service) Bucket

Used in highly-abrasive, high-impact materials.

3 SDE (Standard-Duty Euro) Bucket

Used in low-impact, moderately-abrasive soils.

4 HD (Heavy-Duty) Bucket

Used for digging fragmented rock, frozen ground, caliche, and highly-abrasive materials.

5 HC (High-Capacity) Bucket

Same durable construction as the HD bucket for tough materials but longer tip radius provides increased bucket capacity.

6 HDE (Heavy-Duty Euro) Bucket

Used in high-abrasive, high-impact materials.



①



②

1 Quick Coupler. The optional mechanical Quick Coupler allows quick and easy connection to tools, and has been improved to provide increased bucket rotation.

2 Work tools. A full line of backhoe tools such as hammers, asphalt cutters and more, is available from your Cat dealer.

Excavator-style backhoe. Nothing else looks like, or works like the Cat excavator-style backhoe. You reach further and dig faster. The curved boom also provides additional clearance over obstacles while digging a trench or truck loading. Because the boom is a box section fabrication with internal stiffeners, you get superior strength and better balance with more efficient weight distribution. A new larger diameter boom cylinder increases lift capacity, and the new, heavy-duty boom handles larger loads and more aggressive digging.

Extendible stick. Dig deeper and reach further with the Caterpillar extendible stick. This optional backhoe attachment replaces the standard stick and increases reach and dig depth by approximately 1.1 meters. The extendible stick uses self-lubricated, non-metallic wear pads for low maintenance and minimal wear. Pads can be shimmed or replaced.

Power-Shift Transmission

Change speed and direction with just one lever.



Introducing the new Power-Shift transmission.

Power Shift is now available as an option on the Cat 428C backhoe loader. Change gears and directions effortlessly while maintaining continuous traction throughout the work cycle. You'll work faster with greater operator comfort.

One lever does it all. The conventional shifter has been replaced by a twist-grip on the forward-reverse shuttle. This improves operator comfort and productivity by allowing direction and speed changes to be made with a single lever. There's no floor-mounted gear shift lever, so the operator has more cab floor space. A neutral-start provision prevents starting while directional clutches are engaged.

Five forward gear choices. An additional forward speed is provided between the normal working and hauling ranges. Softer steps between 2nd, 3rd, and 4th gears enhance shift quality and power train durability while reducing wheel slip. Reverse gear ratios have been improved to better match application needs and increase loading cycle performance.

Auto-Shift. With 4th forward gear selected, the Power-Shift control system automatically shifts between 4th and 5th gears to maintain road speed. However, when higher speeds are not needed, a manual 5th-gear lockout switch prevents automatic shifts – especially desirable during such applications as load and carry.

Transmission disconnect. The loader control does not change with the Power-Shift option. A transmission disconnect button is provided to divert full engine power to the main hydraulic pump.

Model availability. The new Power-Shift transmission is available as an option on the 60-kW machine.



Hydraulics

Load-sensing, closed-center system provides power where you need it, when you need it.



Hydraulics. You don't work at full production all the time – so the Caterpillar variable-flow system senses the work demand and adjusts flow and pressure to match it. This system allows high bucket dig forces whatever the engine speed – providing excellent control for those delicate jobs in confined areas. And, very importantly, there's less wear and tear on the system.

Caterpillar hydraulic systems are truly **load-sensing** – with closed-center implement valves. This design provides feedback of the hydraulic system requirements to the pump, delivering the precise flow and pressure needed for the job.

Pressure-compensated valves are used to reduce control-lever effort for less operator fatigue.

Pump flow has been increased to 163 l/min for even faster cycle times and more productivity.



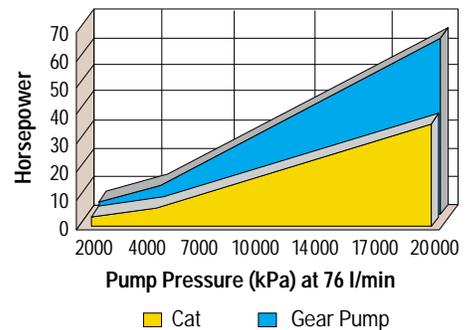
Caterpillar XT hoses are used for high pressure applications to substantially reduce downtime from hose failure. The Cat XT-3 hose is made of four overlapping, insulated wire spiral wraps bonded together for unrivaled long life. XT-3 hoses exceed SAE certification standards, and the hose routing protects them from work damage. If a hose does need replacing, it's fast, easy, and requires no special tools.

Caterpillar couplings are equipped **with O-ring face seal fittings** for long life and less maintenance.

- 1 Hydraulic Pump
- 2 XT Hose
- 3 O-Ring Face Seal Fittings



Wasted Horsepower/Fuel



In the Cat closed-center hydraulic system, power is delivered only when needed – saving fuel and equipment wear and tear. In contrast, an open-center, gear-pump system constantly pumps hydraulic oil at near-maximum force, resulting in wasted horsepower and fuel.

Serviceability

Excellent access and fewer maintenance requirements add up to unparalleled ease of service.



Quick, Easy Access. All daily fluid servicing is done on the left side of the machine. A flip-open engine hood with pneumatically-assisted lift cylinders provides convenient access to a single location for fluid level checks. Visual indicators make it fast and easy to check air cleaner and hydraulic oil level. All filters are mounted vertically for spill-free servicing.

Lockable Tool Box. The spacious tool box contains a maintenance-free battery and has ample room for a second.

Reduced maintenance. Front axle oscillation pin, axles and driveshaft U-joints are sealed and lubricated for life.

Ecology drain valves are available.

Cat '5-Star Customer Service'

Your Cat 428C comes with something unique: Cat '5-Star Customer Service' from your Cat dealer.

Cat '5-Star Customer Service' means peace of mind from the minute you contact your Cat dealer.

By building a partnership with your Cat dealer, you can focus on your business instead of your equipment. Cat '5-Star Customer Service' brings together all the products, services and people from Caterpillar and the Cat dealer network and puts them firmly behind you. Count on them to help you maintain your competitive edge.

Cat '5-Star Customer Service' includes Equipment Management Services to help you make a better business decision.

We'll assist you in selecting the right Cat equipment to suit your need, to optimize productivity. And we'll help you make smarter decisions, assist you with machine selection, purchasing or renting options, financing, and projected owning and operating costs.

Maintenance Services that enable you to maximize machine availability and performance. Every Cat dealer has a wide choice of maintenance products and services to make sure your equipment achieves maximum performance for the lowest possible cost.

Predictive Services to anticipate problems. By anticipating potential problems and preventing unscheduled repairs, Cat Predictive Services make sure that your equipment is always up and ready to run – because maximizing uptime means maximum earning capacity.



Reconditioning Services for a wider choice of repair alternatives.

Caterpillar factory-reconditioned parts and components get your equipment back on the job in the minimum of time and with lower repair costs, contributing to reduced operating costs and a more efficient operation.

Off-the shelf availability of genuine Cat parts. Genuine parts, together with highly experienced, Cat-trained specialists make sure every repair is right first time and your machine is back earning its keep in the shortest possible time.



"Cat '5-Star Customer Service' is our commitment to combine outstanding equipment and services to give you the most cost effective solutions for your business."

Caterpillar and Cat dealers

Engine

Caterpillar 3054 T turbocharged, direct injection, four-cylinder diesel engine.

Ratings at 2200 rpm	kW	hp
Gross Power	59	78
Gross Power (turbo)	63	84

The following ratings apply at 2200 rpm when tested under the specified conditions for the specified standard:

Net Power at 2200 rpm	kW	hp
ISO 9249	56	75
EEC 80/1269	56	75
ISO 9249 (turbo)	60	80
EEC 80/1269 (turbo)	60	80

Dimensions

Bore	100 mm
Stroke	127 mm
Displacement	4.0 liter

Percent torque rise (net)

56 kW (75 hp)	15.2
60 kW (80 hp)	24.0

Power Rating Conditions

- 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 2286 m.

Features

- Controlled-expansion, three-ring pistons made of lightweight, silicon/aluminum alloy for strength and maximum thermal conductivity.
- Forged, chrome/molybdenum-steel crankshaft with tuffride hardened journals.
- Front and rear crankshaft oil seals are "lip" type Viton design featuring an integral dust lip.
- Heat-resistant, silicone-chrome steel intake and STELLITE-faced exhaust valves are used for long engine life.

- Cylinder block is high strength cast iron alloy of deep-skirt, monobloc design for increased strength and long life. Uses replaceable flanged press-fit, dry-type cast-iron liners.
- Cylinder head is high-strength, cast-iron alloy construction with extra-duty wall and deck thickness. Intake and exhaust ports are fully machined.
- Direct-injection fuel system provides accurate fuel delivery. Injectors are easily accessible.
- Dry-type, radial-seal, two-stage air cleaner improves visibility by eliminating hood-mounted precleaner.
- Optional turbocharging available.
- Direct-electric 12-volt starting and charging system with 700 CCA Group 31 maintenance-free battery.
- Standard thermal starting aid system for efficient cold weather starting.

Hydraulic System

Load-sensing, closed-center system.

Variable-flow, closed-center, load-sensing system provides full hydraulic force to cutting edges at all engine speeds. Provides low fuel consumption and low effort controls.

Type	Closed-center
Pump type	Variable-flow, axial-piston
Pump capacity	163 l/m at 2200 rpm
System pressure	20 700 kPa

Steering

Full hydrostatic steering.

Full hydrostatic steering controlled by a hand-metering unit. Secondary steering system available to meet roading regulations in various countries and to meet ISO 5010.

Type	Front wheel	
Power Steering	Hydrostatic	
Cylinder, one (1)	double-acting	
Bore	76 mm	76 mm
Stroke	221 mm	210 mm
Rod diameter	48 mm	36 mm

Turning Circle

2WD/AWD	
Inner wheel not braked	
Outside front wheels	8.1 m
Outside widest loader bucket	10.7 m

Operator Station

ROPS is standard.

ROPS (Roll Over Protective Structure) offered by Caterpillar for this machine meets ROPS criteria ISO 3471:1994. It also meets FOPS (Falling Object Protective Structure) criteria ISO 3449:1992.

Sound

The operator sound pressure level as measured according to the dynamic test procedure and conditions specified in ISO 6396 or 95/27/EC and the exterior sound power level as measured according to the dynamic test procedure and conditions specified in ISO 6395 are as follows:

56 kW (75 hp)

Interior (ISO 6396)	dB(A)	*dB(A)
with interior fan	82	84
without interior fan	80	83
Exterior (ISO 6395)	104	104

60 kW (80 hp)

Interior (ISO 6396)	dB(A)	*dB(A)
with interior fan	82	84
without interior fan	81	83
Exterior (ISO 6395)	105	105

* with air conditioning

Transmission

Caterpillar Power-Shuttle transmission or optional Power Shift*

The standard Power-Shuttle transmission provides four speeds forward and reverse – full synchromesh in all gears. Constant mesh gears on all ratios permit on-the-go shifting of all gears, up or down. Neutral start provision prevents starting while shuttle is engaged. Torque converter free-wheel clutch allows the converter stator to free-wheel during high-speed, low-load conditions such as roading.

Transmission disconnect

Hand-operated power disconnect for easy, on-the-go shifting and full engine rpm for faster cycle times.

Forward/Reverse electric power shuttle

Conveniently placed, hand-operated lever provides instant direction changes between forward and reverse through power hydraulic clutches.

Power Shift option

The Power-Shift transmission is offered on the 428C*. A twist grip mounted on the forward-reverse shuttle controls gear selection. Power Shift provides five forward gear selections, three reverse, and an auto-shift feature between fourth and fifth gears.

* On 60-kW rated machine.

Torque converter

Single-stage, 2.63:1 stall ratio.

Travel speeds

Travel speeds of two-wheel drive backhoe loader at full throttle, when equipped with 16.9 x 28 rear tires.

	Power Shuttle (standard)	Power Shift (optional)
Forward		
1st	5.7 km/h	5.3 km/h
2nd	9.1 km/h	8.4 km/h
3rd	18.7 km/h	11.0 km/h
4th	31.8 km/h	17.5 km/h
5th	–	29.4 km/h
Reverse		
1st	5.7 km/h	5.3 km/h
2nd	9.1 km/h	11.0 km/h
3rd	18.7 km/h	21.4 km/h
4th	31.8 km/h	–

Axles

Choice of standard two-wheel drive or all-wheel drive.

Features

- Heavy-duty rear axle with self-adjusting inboard brakes, differential lock, and final drives.
- Optional all-wheel drive (AWD) engaged by front console panel switch, on-the-go, under load, in any gear, forward and reverse. Features outboard planetary gear final drives.

- AWD and 2WD axles are pendulum mounted and permanently sealed and lubricated, requiring no daily maintenance. Also features double-acting steering cylinder with 50° steering angle for increased maneuverability. Oscillation 11° each direction from centerline.

Axle ratings

Front axle, two-wheel drive	kg
Static	13 750
Dynamic	3 167
Front axle, all-wheel drive	
Static	12 258
Dynamic	3 167
Rear axle	
Static	27 770
Dynamic	9 260

Weights

Standard machine with additional: 1.0 m³ general-purpose loader bucket, 610 mm standard-duty backhoe bucket, 80 kg operator, full fuel tank and cab.

		Minimum counterweight recommendations					
	kg	Standard stick					
Operating weight (range)	6300-9700	Loader bucket					
ROPS canopy	-260			GP		MP/*MP	
Power Shift	25	Power train					
Air conditioning	45			2WD/AWD		2WD/AWD	
All-wheel drive	106	Single tilt					
Multi-purpose bucket 1.03 m ³				145 kg		B	
without fold-over forks	242	Parallel loader					
with fold-over forks	412			145 kg		B	
Loader, single-tilt linkage	-136	Parallel loader with Quick Coupler					
Quick Coupler	200			B		B	
Extendible stick		Extendible stick					
(excludes front counterweight)	237	Loader bucket					
Counterweights			GP	GP	MP	*MP	MP/*MP
base	145	Power train					
stackables			2WD	AWD	2WD	2WD	AWD
three (each)	105	Single tilt					
one	215		460 kg	355 kg	145 kg	B	B
		Parallel loader					
			460 kg	355 kg	145 kg	B	B
		Parallel loader with Quick Coupler					
			145 kg	145 kg	B	B	B
		2WD	Two-wheel drive		MP	Multi Purpose	
		AWD	All-wheel drive		*MP	Multi Purpose with forks	
		GP	General Purpose		B	Bumper	
		Bumper (16 kg) is standard with all units. Total gross vehicle weight not to exceed 9700 kg.					

Tires

Tubeless, nylon, loader design tires.

Parallel Loader			Single-Tilt		
	Size	Ply Rating		Size	Ply Rating
Front			Front		
2WD (F3)	11L x 16	12	2WD (F3)	11L x 16	10
2WD (F3)	14.5/75 x 16	10	2WD (F3)	11L x 16	12
AWD ¹⁾ (XM27)	335/80R x 18	R	2WD (F3)	14.5/75 x 16	10
AWD ¹⁾ (IT510)	335/80R x 18	R	AWD (ISG)	10.5 x 20	10
AWD ²⁾ (SGL)	12.5/80R x 18	10	AWD ²⁾ (SGL)	12.5/80 x 18	10
AWD ²⁾ (SGI)	12.5/80R x 18	10	AWD ²⁾ (SGI)	12.5/80 x 18	10
Rear			Rear		
2WD/AWD ³⁾ (ISG R4)	16.9 x 28	10	AWD ¹⁾ (XM27)	335/80R x 18	R
2WD/AWD ^{2) 4)} (ISG R4)	16.9 x 28	12	AWD ¹⁾ (IT510)	335/80R x 18	R
2WD/AWD (TSG R1)	16.9/14 x 28	12	Rear		
2WD/AWD ²⁾ (ISG)	18.4/15 x 26	12	2WD/AWD ³⁾ (ISG R4)	16.9 x 28	10
2WD/AWD ¹⁾ (XM27)	16.9 x R28	R	2WD/AWD ^{2) 4)} (ISG R4)	16.9 x 28	12
2WD/AWD ¹⁾ (IT510)	16.9 x R28	R	2WD/AWD (TSG R1)	16.9/14 x 28	12
2WD/AWD ¹⁾ (XM27)	18.4/15 x R26	R	2WD/AWD ²⁾ (ISG)	18.4/15 x 26	12
			2WD/AWD ¹⁾ (XM27)	16.9 x R28	R
			2WD/AWD ¹⁾ (IT510)	16.9 x R28	R
			2WD/AWD ¹⁾ (XM27)	18.4/15 x R26	R

¹⁾ Valve stem protection (VSP) included

²⁾ Valve stem protection (VSP) available

³⁾ Not for use with extendible stick

⁴⁾ Standard with extendible stick

Service Refill Capacities

	Liters
Cooling System	
56 kW (75 hp) without air conditioning	18.9
60 kW (80 hp) with air conditioning	21.6
Fuel tank	128.0
Engine oil with filter	7.3
Transmission (Power Shuttle)	
two-wheel drive	15.0
all-wheel drive	18.0
Transmission (Power Shift)	
two-wheel drive	15.0
all-wheel drive	15.0
Rear axle	24.0
Front axle (AWD)	7.5
planetaries	0.75
Hydraulic system	79.0
Hydraulic tank	30.0

Brakes

Fully enclosed, hydraulic, multiple discs.

Features

- Inboard oil-immersed, hydraulically-actuated, multiple discs on final drive input shaft.
- Completely enclosed and sealed.
- Self-adjusting
- Foot-operated brake pedals can be interlocked for roading.
- Parking/secondary brakes are independent of the service brake system. Parking brake is mechanically applied through a hand lever located in the right side console.

Meets ISO 3450:1996 requirements.

Buckets

Standard-Duty bucket with weld-on adapters and pin-on teeth

Width	mm	305	457	610	762	914
Capacities SAE rated	liter	70	127	198	255	311
Weight	kg	110	130	150	165	180
Number of teeth		3	4	5	5	6

Heavy-Duty bucket with weld-on adapters and pin-on teeth

Width	mm	305	400	457	610	762	914
Capacities SAE rated	liter	70	100	127	198	255	311
Weight	kg	120	132	150	175	195	210
Number of teeth		3	4	4	5	5	6

Heavy-Duty Euro bucket with bolt-on uniteeth

Width	mm	305	457	610	762	914
Capacities SAE rated	liter	70	130	200	260	320
Weight	kg	130	160	190	225	240
Number of teeth		3	4	4	5	6

High-Capacity bucket with weld-on adapters and pin-on teeth

Width	mm	457	610	762	914
Capacities SAE rated	liter	184	255	311	396
Weight	kg	155	180	200	215
Number of teeth		4	5	5	6

Extreme-Service bucket with weld-on adapters and pin-on teeth

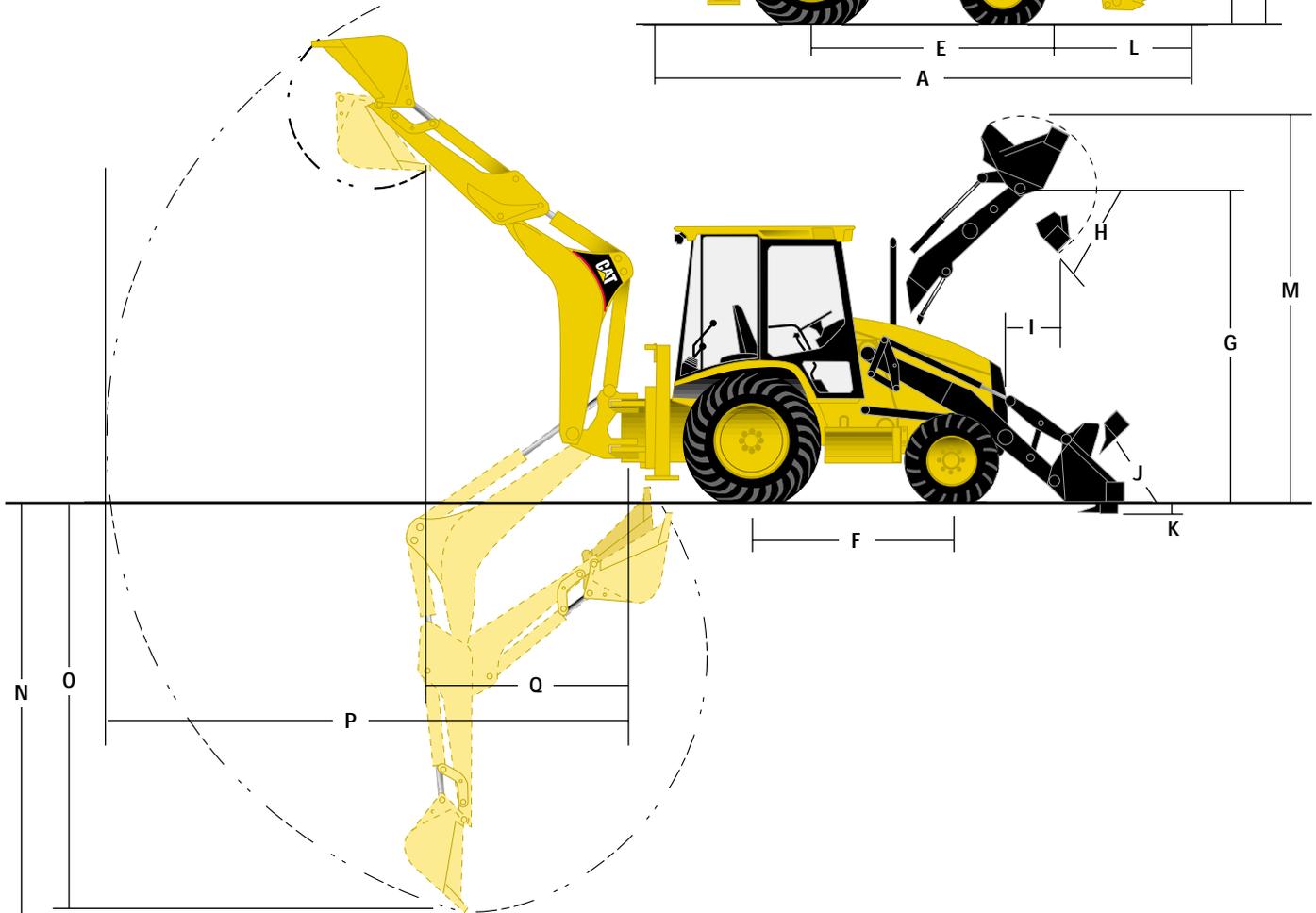
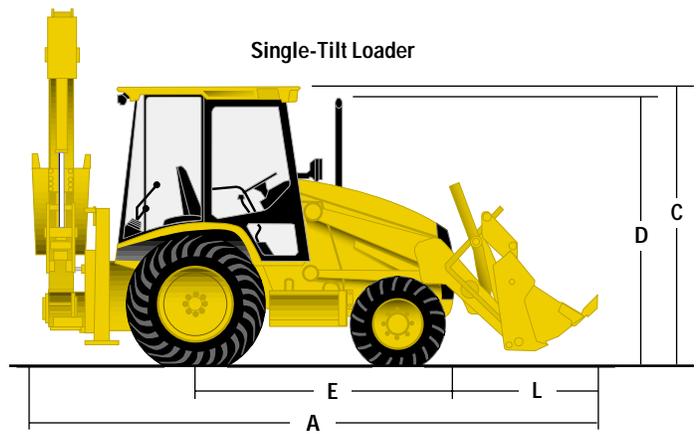
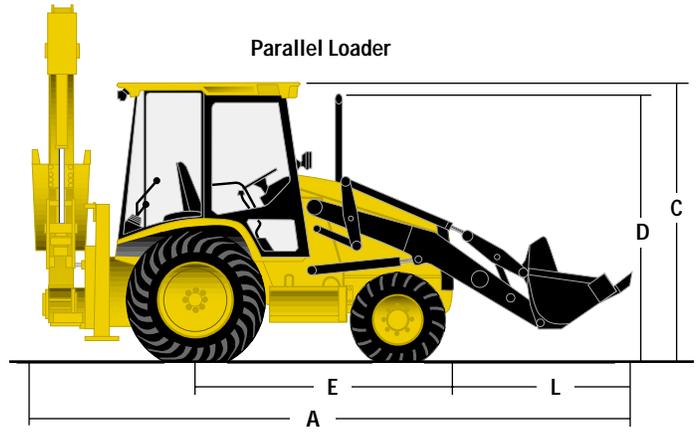
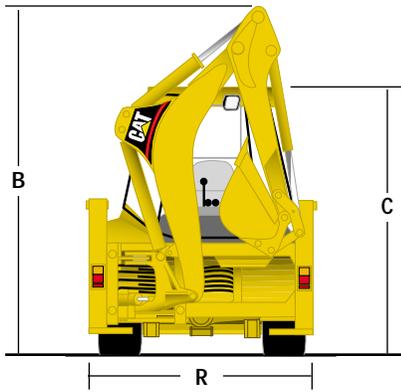
Width	mm	457	610
Capacities SAE rated	liter	99	156
Weight	kg	145	165
Number of teeth		4	4

Standard-Duty Euro bucket with bolt-on uniteeth

Width	mm	305	457	610	762	914
Capacities SAE rated	liter	70	130	200	260	320
Weight	kg	120	140	160	180	200
Number of teeth		3	4	4	5	6

Additional GET tips available through Caterpillar Parts.

Machine Dimensions



Machine Dimensions

	Parallel Loader		Single-Tilt Loader	
	General Purpose	Multi Purpose	General Purpose	Multi Purpose
A Overall transport length	5760 mm	5685 mm	5760 mm	5685 mm
Overall length (loader on ground)	5710 mm	5650 mm	5710 mm	5650 mm
B Overall transport height (standard stick/extendible stick)	3740 mm	3740 mm	3740 mm	3740 mm
Overall width	2396 mm	2406 mm	2396 mm	2406 mm
C Height to top of cab/canopy	2900 mm	2900 mm	2900 mm	2900 mm
D Height to top of exhaust stack	2700 mm	2700 mm	2700 mm	2700 mm
Height to loader hinge pin (transport)	520 mm	570 mm	520 mm	570 mm
Ground clearance (minimum)	320 mm	320 mm	320 mm	320 mm
E Rear axle centerline to front grill	2613 mm	2613 mm	2613 mm	2613 mm
Front wheel tread gauge	1780 mm	1780 mm	1780 mm	1780 mm
Rear wheel tread gauge	1714 mm	1714 mm	1714 mm	1714 mm
F Wheel base 2WD/AWD	2100 mm	2100 mm	2100 mm	2100 mm

Loader Bucket Dimensions and Performance

	Parallel Loader		Single-Tilt Loader	
	General Purpose	Multi Purpose	General Purpose	Multi Purpose
Capacity (SAE) rated	1.0 m ³	1.03 m ³	1.0 m ³	1.03 m ³
Width	2396 mm	2406 mm	2396 mm	2406 mm
Lift capacity at maximum height	3187 kg	2948 kg	2340 kg	2145 kg
Breakout force	47.9 kN	51.1 kN	38.5 kN	41.1 kN
G Maximum hinge pin height	3270 mm	3270 mm	3270 mm	3270 mm
H Dump angle at full height	47°	47°	44°	44°
Dump height at 45°	2565 mm	2600 mm	2570 mm (44°)	2605 mm (44°)
I Dump reach at 45°	820 mm	735 mm	820 mm	735 mm
J Maximum bucket rollback at ground level	40°	40°	39°	40°
K Digging depth	135 mm	165 mm	135 mm	165 mm
Maximum grading angle	111°	114°	108°	111°
Width of dozer cutting edge	–	2406 mm	–	2406 mm
L Grill to bucket cutting edge	1520 mm	1505 mm	1520 mm	1505 mm
M Maximum operating height	4150 mm	4175 mm	4150 mm	4175 mm
Jaw opening maximum	–	927 mm	–	927 mm
Bucket jaw clamping force	–	56.2 kN	–	56.2 kN
Weight (does not include teeth or forks)	445 kg	685 kg	445 kg	700 kg

Backhoe Dimensions and Performance

	Extendible Stick		
	Standard Stick	Retracted	Extended
N Digging depth, manufacturers maximum*	4811 mm	4859 mm	5858 mm
O Digging depth, 610 mm flat bottom	4766 mm	4816 mm	5842 mm
P Reach from swing pivot at ground line	5578 mm	5622 mm	6625 mm
Loading height	3803 mm	3845 mm	4454 mm
Q Loading reach	1638 mm	1677 mm	2579 mm
Swing arc	180°	180°	180°
R Stabilizer width	2360 mm	2360 mm	2360 mm
Bucket rotation, position 1 and 2	170°	165°	165°
Bucket dig force	52.0 kN	53.6 kN	53.6 kN
Stick dig force	33.9 kN	33.5 kN	23.8 kN
Total side-shift travel	1260 mm	1260 mm	1260 mm
Leveling angle (maximum slope on which machine will make vertical cut)	11°	11°	11°

* Manufacturers maximum per European rating practice (front end raised to maximum by loader bucket rolled over face down).

Specifications shown for machine equipped with 11L x 16 (10 PR) front tires, 16.9 x 28 (10 PR) rear tires, ROPS cab, standard stick with 610 mm standard-duty bucket and standard equipment unless otherwise specified.

Standard Equipment

Standard and optional equipment may vary. Consult your Caterpillar dealer for specifics.

Air cleaner, dry type, radial seal with precleaner and filter condition indicator	Front grill with bumpers	Power receptacle, 12V (2)
Alternator, 52-amp, 12-volt	Front headlights	Power steering, hydrostatic
Antifreeze (to -30°C)	Front and rear windshield wipers	ROPS cab with heater, defroster, pressurizer and cab recirculating fan
Audible system fault alarm	Front windshield washer	Seat belt, retractable (51 mm)
Backhoe, 4811 mm dig depth side-shift excavator-style backhoe 2 lever control	Gauges: Coolant temperature, fuel level, tachometer, hour meter, torque converter oil temperature	Seat, air suspension with fabric or vinyl seat cover and armrests
Battery, maintenance free, 700 CCA	Ground line fuel fill with 128 liters capacity	Spin-on fuel, engine, hydraulic and transmission oil filters
Boom transport lock	Grouser style stabilizer shoes	Starting system, thermal aid
Brace, lift cylinder	Hydraulic oil cooler	Storage compartment, internal
Brakes, oil-disc	Indicators: Air cleaner service, brake on, engine coolant, hydraulic oil level sight gauge, oil pressure	Stop and tail lights (2)
Cat 3054 T turbocharged diesel engine (56 kW)	Instrument panel lights	Swing transport lock
Coat hook	Key start/stop system with auxiliary position	Tires (see page 18)
Differential lock	Left/right side doors with locks	Tool box, external
Dome light	Lights, working (2 front, 2 rear)	Torque converter
Electro-hydraulic slide frame lock release	Load sensing, variable flow system with axial piston pump	Throttles, hand and foot
Engine enclosure	Loader, parallel lift with return-to-dig and transmission disconnect switch on single-lever control	Transmission, four-speed synchromesh
Fan, suction, and fan guard	Mirrors, external (2)	Transmission neutralizer switch
Fast reversing shuttle, all gears		Warning horn, front, electric
Flashing hazard/signal lights		Water separator
Floor mat		
Front axle, pendulum mount		

Optional Equipment

With approximate change in operating weight.

	kg		kg
Air conditioning	45	Fan, circulating	1
Alarm, back up*	1	Fenders, front, all-wheel drive	50
Alternator, 90 amp	8	Guards	
Attachments, front loader (parallel)		AWD driveshaft	29
Quick Coupler, hydraulic	200	Teeth (GP/MP bucket)	45
General-purpose bucket		Rear lights, roading	3
1.0 m ³	545	High ambient coolant package	2
Multi-purpose bucket		Hydraulic valves, loader	
1.03 m ³	700	3rd valve for GP, MP or Quick Coupler	12
1.03 m ³ with forks	870	Hydraulic valves, backhoe	
Forks (for use with Quick Coupler)		Auxiliary valve (standard stick)	5
1043 mm	430	Auxiliary valve (extendible stick)	5
1220 mm	445	Hydraulic lines	
1346 mm	460	Auxiliary, low flow use (to boom)	10
Material handling arm	315	Universal, high flow use (to stick)	45
Attachments, front loader (single tilt)		Quick disconnects	2
General-purpose bucket		Hydraulic drop valves	
1.0 m ³	545	Boom	–
Multi-purpose bucket		Boom/Stick	–
1.03 m ³	700	Loader lift and tilt	–
1.03 m ³ with forks	870	Lights	
Attachments, backhoe		Number plate, rear	–
Buckets	see page 19	Roading	15
Quick Coupler (backhoe)		Working, additional (2 front, 2 rear)	3
Hydraulic	85	Loader, single tilt	–
Mechanical	75	Mirror, exterior rearview, large	1
Axle, front		Operator's station	
All-wheel drive	106	Canopy – OROPS	-260
Backhoe controls, excavator	9	Platform – Non-ROPS	–
Battery, additional	27	Radio installation kit	3
Cat 3054 T turbocharged diesel engine (60 kW)	0	Ride Control	25
Counterweights		Rotating beacon	5
Bumper	16	Seat belt – 75 mm	–
Base	145	Stabilizer street pads, rubber (set of 4)	37
Stackables		Stick, extendible	245
three (each)	105	Tilt steering wheel	4
one	215	Tires	see page 18
Cutting edge, bolt-on		Transmission, Power Shift	25
Single piece	85	Transport locks*	7
Two piece	70	Vandalism protection	3
Ecology drain plugs	–	Visor, cab	–

* Included in base machine weight

428C Backhoe Loader

HEHB2072-2 (0299) hr

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

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