

428D

Backhoe Loader



Cat® 3054 T Diesel Engine

Gross power	62 kW/83 hp
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Net power	59 kW/80 hp
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Operating Weight (standard)	7738 kg
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Backhoe Digging Depth

Standard stick	4854 mm
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Extendible stick	5894 mm
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Cat 428D Backhoe Loader

The Caterpillar® D-Series Backhoe Loader – raising the standards 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 low-profile hood for maximum visibility to the implement
- Large loader torque tube resists bending and twisting
- Self-levelling and return-to-dig systems for ease of operation

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Operator Station

The all new D-Series cab interior maintains a high level of visibility whilst achieving a new level of comfort and ease of operation.

- Spacious, stylish operator station
- Convenient personal storage areas
- Four large side windows open 180 degrees to maximise visibility and ventilation
- Low effort, logically placed controls are located within natural reach for operator comfort
- Optional Deluxe Cab arrangement provides additional comfort and features
- Standard air suspension seat for superior ride and operator comfort

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Engine

- Caterpillar 3054 T turbocharged engine for proven reliability
- Emissions compliant
- Durable gear driven water pump
- Thermal starting aid for easier cold-weather starting
- Parts commonality with other Cat machines
- Low cost per hour
- New fuel system provides improved lug performance
- Single location access to service refill points

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

The D-Series range of Backhoe Loaders provide a wide choice of power, performance and features to suit your needs.

The 428D benefits from increased hydraulic performance and operator comfort, whilst maintaining the high levels of visibility, durability and reliability that Caterpillar Backhoe Loaders have long established in the industry.

Ask your Caterpillar Dealer about the 428D.

Explore the new D-Series range.



Backhoe Versatility and Performance

- Large-bore boom cylinder for excellent lift capacity
 - Heavy-duty boom design for superior strength and balance
 - Excavator-style backhoe reaches over obstacles, provides faster, easier truck loading
 - 205 degrees of bucket rotation from a single pin location
 - Optional backhoe Quick Coupler for additional versatility
 - A 10% increase in boom and stick forces
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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
 - New pump torque-limiter control maximises power distribution.
 - 3300 psi (228 bar) system pressure
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Serviceability

Excellent access and fewer maintenance requirements add up to unparalleled ease of service. **pg. 10**

Other Special Features

- Standard All Wheel Drive for maximum manoeuvrability and improved loader performance
- Optional Auto-Shift transmission changes through the selected gear range automatically **pg. 11**
- 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 the loader to smooth the ride and increase stability
- Standard All Wheel Braking (AWB) provides increased brake performance



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 reliability
 - Reconditioning Services for lower repair cost
 - Caterpillar dealer parts support for satisfaction and peace of mind
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New Features

Backhoe Performance

The D-Series backhoe benefits from a *10% increase in boom and stick forces* providing more muscle than ever before. All D-Series machines also benefit from the new High Rotation Linkage, from which you can achieve 205 degrees of bucket rotation from a single pin location.

Hydraulic Stabilisers

Pilot Hydraulic Stabilisers are a new standard feature on the 428D. The low effort controls are mounted on the new side console, improving operator comfort and visibility. An Auto-up option is also available which enables the operator to retract the stabilisers fully by pulling the controls into a latch position, freeing the operator to perform another function.

All Wheel Braking (AWB)

The All Wheel Braking (AWB) function, fitted as standard on the 428D, provides additional braking performance. When driving in two wheel drive, applying the brakes engages four wheel drive, maximising brake effectiveness. Releasing the brakes returns the transmission to two wheel drive. The simple, yet effective design is a great asset when braking in hazardous, slippery conditions and on gradients. Braking modes are controlled by the All Wheel Drive selection switch.

Narrow Frame

A Narrow Frame option is available on the 428D. When combined with the Narrow Bucket option, the total machine width is reduced to 2262 mm from the standard 2406 mm. When constantly working in regions where machine width is critical to manoeuvrability, the narrow frame option provides a solution.

Universal Controls

D-Series offers an additional choice of backhoe control pattern. In addition to Caterpillar Plus Pattern or Excavator Pattern, the Universal Controls option allows an operator to choose between Caterpillar standard '+' pattern or the alternative 'X' pattern. Changing between patterns requires a simple mechanical adjustment.



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 low-profile hood and divergent lift arms enhance *visibility* to the bucket and forward work area. The second-gear ratio creates an excellent match between the hydraulic system and rimpull for *faster truck loading*. Available with either General Purpose or the highly versatile Multi-Purpose bucket, the 428D can be configured to meet your needs.

Auto-Shift

On Auto-Shift configured machines, a kick-down switch is incorporated into the Loader lever. The kick-down switch enables the operator to shift down through the gears while maintaining full control of the loader function.

Ride Control

Caterpillar's optional Ride Control system gives operators a smooth ride in all applications, including load and carry, roading or simply moving around the job site. A nitrogen accumulator added to the loader lift circuit cushions the system and reduces loping. The system is engaged by a switch on the front console.

Operator Station

Whether you choose the Standard or Deluxe cab package, style, comfort, superb visibility and ease of operation come as standard.



The 428D Cab is Designed for Maximum Comfort and Ease of Operation

The all new D-Series cab interior contains stylish new consoles and controls designed for maximum comfort and ease of operation. White faced gauges provide added clarity and styling to each console. A Radio Ready Headliner, Pilot Hydraulic Stabiliser Controls, lockable storage console and Air Ride Seat are just some of the many standard features.



Operator Comfort

The 428D operator station incorporates years of cab design innovations to maximise operator comfort and productivity.

Operator Controls

Low effort, logically placed controls are located within natural reach for maximum operator comfort. New, standard Pilot Hydraulic Stabiliser Controls are positioned on the side console together with the boom lock lever, improving operator comfort and visibility. The smooth, precise backhoe hydraulic controls are available in a choice of fixed and interchangeable patterns.

HVAC System

The new heating, ventilation and optional air conditioning system, supplies numerous ventilation outlets strategically positioned throughout the cab for optimum heating, cooling, de-mist and de-frost performance.

Standard Cab

The 428D standard cab arrangement features an Air Suspension Seat, phone clip, Radio Ready Headliner, lockable storage console with integral drinks holders, two doors and opening rear windows. Standard tinted glass reduces glare, whilst new interior sound levels of 78 dB(A) further reduce fatigue.

Deluxe Cab

The Deluxe Cab option packages together an array of additional features, designed to further enhance comfort and ease of operation.

The arrangement consists of

- Deluxe seat with deluxe fabric, lumbar support, head rest, cushion extension and cushion tilt.
- Additional instrumentation including a voltmeter and additional system monitoring indicators.
- Additional features include Tilt Steering Column, eight working lights, Vandal Cover and Sun Visor.



Rear Window

The re-designed rear window features a heavier hinge structure and positive latch mechanism to hold the window in the open position.



Air Suspension Seat

The Air Suspension Seat utilises an adjustable air cushion mechanism for a smooth comfortable ride. The seat can be tailored to support differing body weights and the adjustable seat height accommodates all operators.

Backhoe Performance

The Cat Excavator-style Backhoe – a proven performer.



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. The large diameter boom cylinder and additional system pressure increase lift capacity.

The new heavy duty boom and stick handle larger loads and allow 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.

Quick Coupler

The optional mechanical Quick Coupler allows tools to be connected quickly and easily.

High Rotation Linkage

All D-Series machines are fitted with the Caterpillar High Rotation Linkage design which provides a staggering 205 degrees of rotation from a single pin position. The high degree of rotation enables deeper vertical wall excavation which simplifies trenching tasks. Working in confined spaces often means digging close to the machine, where high rotation is key to an efficiently completed job.

Backhoe Buckets

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

- Thick cutting edges.
- A large two-strap tooth adapter distributes the load further back in the bucket and resists breakage.
- The corner adapter is mounted on the side plate for a stronger more durable weld joint. This makes the teeth the widest point on the bucket and greatly increases the amount of wear material on the bucket corners.
- Thick wear material on the side plates provide better reinforcement above the cutting edges.
- An identification plate on all buckets provides bucket specifications, GET sizes, machine compatibility specifications and a unique ID number for tracking purposes.

Backhoe Bucket Combinations

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



SD (Standard Duty) Bucket

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

HD (Heavy Duty) Bucket

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

ES (Extreme Service) Bucket

Used in highly abrasive, high impact materials.

HC (High Capacity) Bucket

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



Work Tools

A full line of backhoe tools such as hammers, asphalt cutters and more are available from your Caterpillar dealer.

Power Train

Designed for strength, performance and versatility.

Caterpillar 3054 Turbocharged Engine

The 428D is fitted with with 3054 T 59 kW turbocharged engine. The 3054 T is a 4 cylinder, 4 stroke, direct-injection design equipped with a thermal starting aid as standard. The thermal starting aid provides reliable starting down to -29°C. The engine also features a gear driven water pump, providing better reliability than conventional belt driven technology. All Caterpillar backhoe engines meet 97/68/EC emission regulations.

Radial Seal Air Filter

A dry-type, radial seal air filter has been designed specifically for the 3054 T engine. The two stage filter incorporates the function of the air cleaner and precleaner into a single unit, which eliminates the hood mounted precleaner.

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 move. Gear selection is made with a floor-mounted shift lever.

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.

Auto-Shift Transmission

Work faster with the new optional Auto-Shift transmission. The Auto-Shift transmission provides automatic shifting between five forward and three reverse gears. There is no floor mounted shift lever, so the operator has more cab floor space and better access through the right hand door.

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.

Extra system monitoring, included in the Deluxe cab package, provides in-cab indication of a plugged hydraulic filter, water in the separator and air restriction indication.

Reduced Maintenance

Front axle oscillation pin, axles and driveshaft U-joints are sealed and lubricated for life. The new self lubricated wear pads used on the extendible stick provide 80% more life. Stabiliser wear pad life has also been improved by 30%.

Lockable Tool Box

The spacious tool box contains one maintenance-free battery as standard and has ample room for a second optional battery.



5 Speed Auto-Shift Transmission

Automatic shifting through the gears. Simple and effortless gear change.



Introducing the New Auto-Shift Transmission

The optional Auto-Shift transmission automatically matches gears with grade and load conditions.

Select between Manual or Automatic mode

A switch mounted to the front console allows selection between Automatic or Manual mode. In Manual mode, shifting between the gears is achieved by a twist-grip control on the forward-reverse shuttle. Four forward gears and 3 reverse gears are available.

In Automatic mode, the transmission unit will automatically shift up and down the gears, up to the highest gear selected on the twist grip control. An additional 5th forward gear is engaged in Automatic mode for maximum speed and fuel economy.



Kick-down

All machines fitted with Auto-Shift have a kick-down switch mounted on the loader lever. Momentarily pressing the switch once causes the transmission to move down a gear. The feature allows the operator to have ultimate control over gear selection, whilst maintaining full hands-on control at all times on the loader lever.

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 the 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. Also, very importantly, there is 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 exact flow and pressure needed for the job.

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

XT Hoses

Caterpillar XT hoses are used for high pressure applications to substantially reduce downtime from hose failure. The XT3 hose is made of four overlapping, insulated wire spiral wraps bonded together for unrivalled long life.



1 Reverse Signal System

Pump control changes improve power management between the loader hydraulic system and machine rimpull for faster truck loading. The new reverse signal system provides priority to backhoe hydraulics to maximise hydraulic horsepower.

2 Carefully selected hose routings ensure maximum protection from work damage. Should a hose require replacing, it is fast, easy and requires no special tools.

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

Cat '5-Star Customer Service'

Your Cat 428D 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 the 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 and get the best return on your investment.

'5-Star Customer Service' includes Equipment Management Services to help you make a better business decision. We will assist you in making detailed comparisons of the machines you are considering before you buy. We will help you make smarter decisions, assist you with machine and attachment selection, purchasing or renting options, competitive financing and fixed cost Preventive Maintenance Agreements.

Maintenance Services that enable you to maximise machine availability and performance. Every Cat Dealer has a wide choice of maintenance products and services tailored to your needs which ensure your equipment achieves maximum performance for the lowest possible cost.

Predictive Services to anticipate problems. By anticipating potential problems, Cat Predictive Services such as Schedule Oil Sampling and Technical Analysis help you avoid unscheduled repairs.



Reconditioning Services for a wider choice of repair alternatives. Selected Caterpillar factory-remanufactured parts and components are available to get your equipment back on the job in the minimum time. They are offered with the same warranty and reliability as new products but with a cost saving of forty to seventy percent.

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.

Engine

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

Ratings at 2200 rpm	kW	hp
Gross Power	62	83

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	59	80
EEC 80/1269	59	80

Dimensions

Bore	100 mm
Stroke	127 mm
Displacement	4.0 liter

Torque rise (net)

59 kW (80 hp)	30%
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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 de-rating required up to 2286 m.

Features

- Controlled expansion, three ring pistons made of lightweight, silicon/aluminium 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, silicon-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 pre-cleaner.
- 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	228 bar

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	72 mm
Stroke	211 mm
Rod diameter	38 mm

Turning Circle

Inner wheel not braked	
Outside front wheels	8.1 m
Outside widest loader bucket	10.7 m

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.

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:

59 kW (80 hp)	dB(A)	*dB(A)
Interior (ISO 6396)	78	78
Exterior (ISO 6395)	105	105

* with air conditioning

Transmission

Caterpillar Power-Shuttle transmission or optional Auto-Shift.

The standard Power-Shuttle transmission provides four speed 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 convertor free-wheel clutch allows the convertor 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.

Auto-Shift option

The optional Auto-Shift transmission automatically matches gears with grade and load conditions. Manual mode gives full gear selection to the operator for operation as Power-Shift transmission.

Torque convertor

Single stage, 2.63:1 stall ratio.

Travel Speeds

Travel speeds of All Wheel Drive backhoe loader at full throttle, when equipped with 16.9x28 rear tires.

	Power Shuttle (standard)	Auto-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

All Wheel Drive is standard.

Features

- Heavy-duty rear axle with self-adjusting inboard brakes, differential lock and final drives.
- Standard All Wheel Drive (AWD) is engaged by front console panel switch or by brake pedal during all-wheel-braking operation. AWD can be engaged on-the-go, under load, in any gear, forward or reverse. Features outboard planetary gear final drives.
- Front axles are pendulum mounted and permanently lubricated, requiring no daily maintenance. Also features

double-acting steering cylinder with 50 degree steering angle for increased manoeuvrability. Oscillation 11 degrees each direction from the centerline.

Axle Ratings

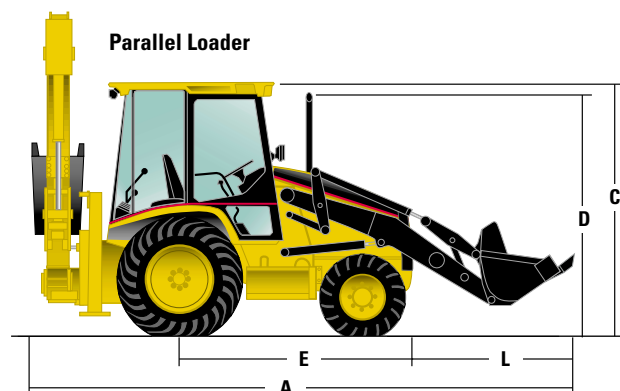
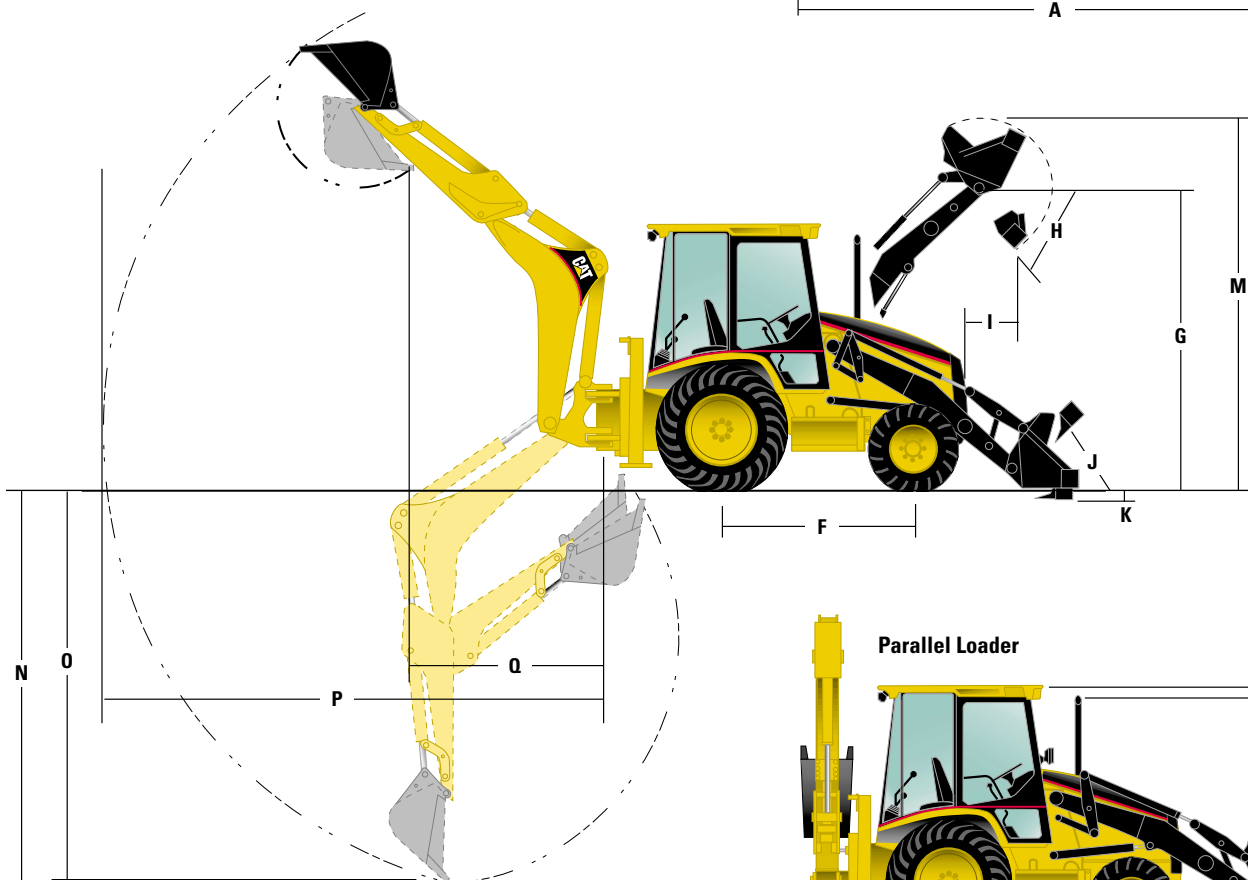
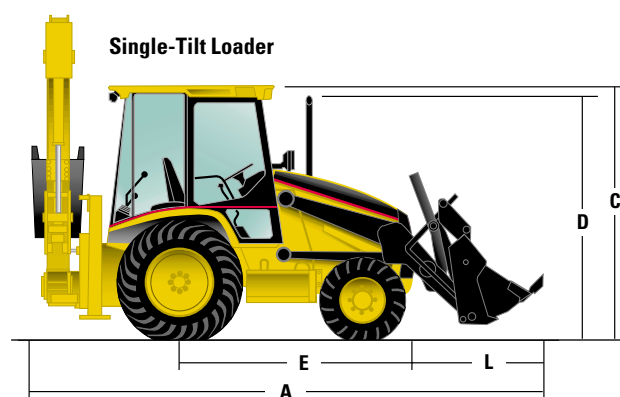
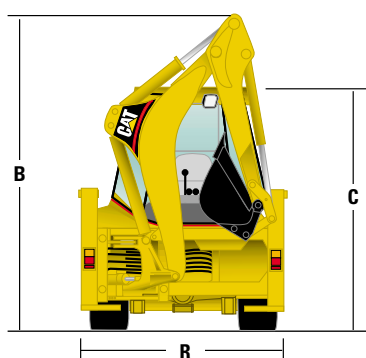
Front axle, all-wheel-drive	
Static	12 258 kg
Dynamic	3167 kg
Rear axle	
Static	27 770 kg
Dynamic	9260 kg

Service Refill Capacities

	Liters
Cooling System 59 kW (80 hp) with air conditioning	15.9
Fuel tank	128.0
Engine with oil filter	7.3
Transmission	
Power Shuttle AWD	18.0
Auto-Shift AWD	15.0
Rear Axle	24.0
Front Axle AWD	7.5
Planetaries	0.8
Hydraulic System	79.0
Hydraulic Tank	38.0

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)	3740 mm	3740 mm	3740 mm	3740 mm
Overall transport height (extendible stick)	3740 mm	3740 mm	3740 mm	3740 mm
Overall width (Standard frame)	2396 mm	2406 mm	2396 mm	2406 mm
Overall width (Narrow frame)	2262 mm	2262 mm	2262 mm	2262 mm
C Height to top of canopy/cab	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 based (AWD)	2100 mm	2100 mm	2100 mm	2100 mm



Loader Bucket Dimensions and Performance (Narrow)

	Parallel Loader		Single-Tilt Loader	
	General Purpose	Multi Purpose	General Purpose	Multi Purpose
Capacity (SAE rated)	0.96 m ³	0.96 m ³	0.96 m ³	0.96 m ³
Width	2262 mm	2262 mm	2262 mm	2262 mm
Lift capacity at maximum height	3468 kg	3232 kg	2997 kg	2806 kg
Breakout force	51.0 kN	56.6 kN	47.0 kN	45.9 kN
G Maximum hinge pin height	3321 mm	3321 mm	3321 mm	3321 mm
H Dump angle at full height	47°	47°	43°	43°
Dump height at maximum angle	2613 mm	2650 mm	2633 mm	2666 mm
I Dump reach at maximum angle	764 mm	685 mm	794 mm	714 mm
J Maximum bucket rollback at ground level	40°	40°	39°	40°
K Digging depth	77 mm	108 mm	78 mm	109 mm
Maximum grading angle	111°	114°	109°	111°
Width of dozer cutting edge	–	2406 mm	–	2406 mm
L Grill to bucket cutting edge, carry position	1520 mm	1505 mm	1520 mm	1505 mm
M Maximum operating height	4201 mm	4229 mm	4201 mm	4229 mm
Jaw open maximum	–	927 mm	–	927 mm
Bucket jaw clamping force	–	56.2 kN	–	56.2 kN
Weight (not including teeth or forks)	426 kg	547 kg	432 kg	611 kg

Loader Bucket Dimensions and Performance (Standard)

	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	3388 kg	3152 kg	2917 kg	2726 kg
Breakout force	50.2 kN	55.7 kN	46.3 kN	45.2 kN
G Maximum hinge pin height	3321 mm	3321 mm	3321 mm	3321 mm
H Dump angle at full height	47°	47°	43°	43°
Dump height at maximum angle	2613 mm	2650 mm	2633 mm	2666 mm
I Dump reach at maximum angle	764 mm	685 mm	794 mm	714 mm
J Maximum bucket rollback at ground level	40°	40°	39°	40°
K Digging depth	77 mm	108 mm	78 mm	109 mm
Maximum grading angle	111°	114°	109°	111°
Width of dozer cutting edge	–	2406 mm	–	2406 mm
L Grill to bucket cutting edge, carry position	1520 mm	1505 mm	1520 mm	1505 mm
M Maximum operating height	4201 mm	4229 mm	4201 mm	4229 mm
Jaw open maximum	–	927 mm	–	927 mm
Bucket jaw clamping force	–	56.2 kN	–	56.2 kN
Weight (not including teeth or forks)	445 kg	685 kg	445 kg	700 kg

Backhoe Dimensions and Performance

	Standard Stick		Extendible Stick	
	Retracted	Extended	Retracted	Extended
N Digging depth, manufacturers maximum	4854 mm	5894 mm	4916 mm	5894 mm
O Digging depth, 610 mm flat bottom	4850 mm	5865 mm	4855 mm	5865 mm
P Reach from swing pivot at ground line	5637 mm	6664 mm	5692 mm	6664 mm
Loading height	3712 mm	4274 mm	3730 mm	4274 mm
Q Loading reach	1742 mm	2747 mm	1829 mm	2747 mm
Swing arc	180°	180°	180°	180°
Bucket rotation	205°	205°	205°	205°
R Stabiliser width (Standard frame)	2360 mm	2360 mm	2360 mm	2360 mm
Stabiliser width (Narrow frame)	2196 mm	2196 mm	2196 mm	2196 mm
Bucket dig force	57.1 kN	56.6 kN	56.6 kN	56.6 kN
Stick dig force	38.2 kN	37.5 kN	37.5 kN	27.0 kN
Total side shift travel (Standard frame)	1260 mm	1260 mm	1260 mm	1260 mm
Total side shift travel (Narrow frame)	1096 mm	1096 mm	1096 mm	1096 mm

Buckets

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

Width	inch/mm	12/305	18/457	24/610	30/762	36/914
Capacities SAE rated	liter	78	118	175	233	292
Weight	kg	97	115	132	147	165
Number of teeth		3	4	5	5	6

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

Width	inch/mm	12/305	16/406	18/457	24/610	30/762	36/914
Capacities SAE rated	liter	78	105	118	175	233	292
Weight	kg	105	127	129	151	167	189
Number of teeth		3	3	4	5	5	6

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

Width	inch/mm	18/457	24/610	30/762	36/914
Capacities SAE rated	liter	180	240	320	380
Weight	kg	146	171	195	214
Number of teeth		4	5	5	6

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

Width	inch/mm	12/305	18/457	24/610	30/762
Capacities SAE rated	liter	64	96	142	189
Weight	kg	106	132	152	177
Number of teeth		3	4	4	6

Tires

Tubeless, nylon, loader design tires.

Single Tilt and Parallel Loader (AWD)

Front		Size	Ply Rating
Michelin ¹⁾	(XM27)	335/80Rx18	R
Goodyear ¹⁾	(IT510)	340/80Rx18	R
Goodyear ¹⁾	(IT530)	340/80Rx18	R
Goodyear ²⁾	(SGL)	12.5/80Rx18	10
Goodyear ²⁾	(SGI)	12.5/80Rx18	10
Rear			
Goodyear ³⁾	(ISG R4)	16.9x28	10
Goodyear ²⁾	(ISG R4)	16.9x28	12
Goodyear ²⁾	(ISG)	18.4/15x26	12
Michelin ¹⁾	(XM27)	16.9xR28	R
Goodyear ¹⁾	(IT510)	16.9xR28	R
Goodyear ¹⁾	(IT530)	440/80xR28	R
Michelin ¹⁾	(XM27)	18.4/15xR26	R

¹⁾ Valve stem protection (VSP) included.

²⁾ Valve stem protection (VSP) available.

³⁾ Not for use with extendible stick.

Weights

Standard parallel lift machine with 1.0 m³ general purpose loader bucket, 610 mm standard duty backhoe bucket, 80 kg operator and a full fuel tank.

	kg
Operating weight (range)	7397-9800
Standard machine weight	7738
ROPS canopy	-212
Auto-Shift	38
Air conditioning	45
Multi-purpose bucket 1.03 m ³	
With fold-over forks	412
Without fold-over forks	242
Loader, single-tilt linkage	-145
Extendible stick (excludes front counterweight)	240
Counterweights	
Base	145
Stackables – Three (each)	105
Stackables – One	215

Minimum Counterweight Recommendations:

Standard Stick

Single Tilt	
General Purpose	250 kg
Multi Purpose	Bumper
Multi purpose with fold-over forks	Bumper

Parallel Lift

General Purpose	250 kg
Multi Purpose	Bumper
Multi purpose with fold-over forks	Bumper

Extendible Stick

Single Tilt	
General Purpose	460 kg
Multi Purpose	145 kg
Multi Purpose with fold-over forks	Bumper
Parallel Lift	
General Purpose	460 kg
Multi Purpose	145 kg
Multi Purpose with fold-over forks	Bumper

Bumper is 16 kg and standard with all units.

Total gross vehicle weight not to exceed 9800 kg.

Standard Equipment

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

Air cleaner, dry type, radial seal with pre-cleaner and filter condition indicator	Front grill with bumpers	Mirrors, external (2)
All Wheel Drive	Front headlights	Power receptacle, 12 V (2)
Alternator, 50-amp, 12 volt	Front and rear windshield wipers	Power steering, hydrostatic
Antifreeze (to -37°C)	Front windshield washer	Pilot hydraulic stabiliser controls
Audible system fault alarm	Gauges: Coolant temperature, fuel level, tachometer, hour meter, torque convertor, oil temperature	ROPS cab with heater, defroster, pressuriser and cab recirculating fan
Backhoe, 4854 mm dig depth, side-shift, excavator-style backhoe 2 lever control	Ground line fuel fill with 128 liters capacity	Seat belt, retractable (50 mm)
Battery, maintenance free, 700 CCA	Grouser style stabiliser shoes	Seat, air suspension with fabric or vinyl seat cover and armrests
Boom, transport lock	Headliner, radio ready	Spin-on fuel, engine, hydraulic and transmission oil filters
Brace, lift cylinder	Hydraulic oil cooler	Starting system, thermal aid
Brakes, oil disc	Indicators: Air cleaner service, brake on, engine coolant, hydraulic oil level sight gauge, oil pressure	Storage compartment, internal
Caterpillar 3054 T turbocharged diesel engine (59 kW)	Instrument panel lights	Stop and tail lights (2)
Coat hook	Key start/stop system with auxiliary position	Swing transport lock
Differential lock	Left/right side doors with locks	Tires
Dome light	Lifting eye, backhoe	Tool box, external
Drinks holder	Lights, working (2 front, 2 rear)	Torque convertor
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		Transmission neutraliser 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		kg
Air conditioning	45	Fenders, front, All Wheel Drive	50	Operators station	
Alarm, back up	1	Guards		Canopy	-260
Alternator, 90 amp	8	AWD driveshaft	29	Deluxe	12
Attachments, front loader (parallel and single tilt)		Teeth (GP/MP)	45	Ride control	25
General purpose bucket 1.0 m ³	545	Rear lights, roading	3	Rotating beacon	5
Multi purpose bucket 1.03 m ³	700	High ambient cooler package	2	Seat belt 75 mm	–
1.03 m ³ with forks	870	Hydraulic valves, loader		Stabiliser street pads (set of 4)	37
Attachments, backhoe buckets see pg.18		3rd valve for GP/MP	12	Stick, extendible	245
Quick Coupler (Mechanical)	75	Hydraulic valves (auxiliary)		Tilt steering wheel	4
Battery, additional	27	Standard stick	5	Transmission Auto-Shift	25
Counterweights		Extendible stick	5	Transport locks	7
Bumper	16	Hydraulic lines		Vandalism protection	3
Base	145	Universal high flow to stick	45	Visor cab	–
Stackables three (each)	105	Quick disconnects	2		
Stackables one	215	Lights			
Cutting edge, bolt on		Number plate, rear	–		
Single piece	85	Roading	15		
Two piece	70	Working, additional (2 front, 2 rear)	3		
Ecology drain plugs	–	Mirror, exterior rearview, large	1		
		Narrow frame	-20		

428D Backhoe Loader

HEHB2682 (03/2001) 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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