

432 BHL

Backhoe Loader





Reduced cab height for C-130 air transportability.

All-day versatility and speed for ever-changing applications.

Digging trenches for base camp infrastructure, loading materials and working around rock and rubble - the Cat® 432 Backhoe Loader (BHL) is built for every task engineers encounter. Operators are not only able to safely and efficiently perform the work, but also quickly exchange loader or backhoe work tools without additional support. The 432 BHL keeps combat engineering operations moving forward.

Applications	
Trenching and Digging	Soil Excavation
Airfield Repair	Snow Removal
Road Repair	Modifying Environments
Material Loading/ Handling	General Construction



Ergonomic operator station with egress hatch in roof.



Rearview monitor

Worksite safety and efficiency begins in the cab.

- **Ergonomic Operator Station:** Remain productive and comfortable all day long with tilt steering column, excellent 360-degree visibility and ample leg room.
- **Joystick Controls:** Precise control with low effort. Ergonomically designed joysticks deliver convenient auxiliary functionality.
- **Ride Control System:** Reduce operator fatigue and improve material retention with a smoother ride for all conditions.
- **Pattern Selector Switch:** Operators can easily change from an excavator to a backhoe control pattern simply by pressing a button.
- **Gauge Cluster:** LED indicator lights and audible alarms allow operators to effectively maintain awareness of the machine's controls.

Always efficient operating on- or off-road.

- **Cat 3054C Mechanically Turbocharged Engine:** Whatever the task, operate with quiet performance and long lasting durability.
- **Autoshift Transmission:** With six forward and three reverse speeds, the autoshift transmission matches gear with grade and load conditions to quickly reach maximum speed smoothly and quickly. And four wheel drive ensures mobility and loader performance in poor underfoot conditions.
- **Armored Cabs:** Equipped with full time all wheel braking.

Leading hydraulic technology matches power to demand.

- **Electronic Load Sensing Hydraulics:** The closed center hydraulic system matches pressure and flow to give operators full force at any engine speed. Whether in full trenching mode or digging around delicate surfaces, remain in control with the flow needed to get the job done quickly and efficiently.
- **Flow Sharing Valves:** Specifically tuned hydraulic valves allow for the multifunction of hydraulic components, without machine manipulation. Hydraulic fluid is shared between implements for continuous operation.
- **Hydraulic Lines:** Combination two way and one way flow hydraulic lines add versatility to the machine. Efficiently run either style hydro mechanical tool by simply changing the lever position.

Armor Protection Solutions

The armored crew protection kit (CPK) provides 360° protection for operators inside the cab. Its emergency egress hatch gives operators the ability to quickly exit the cab, while providing rescue personnel critical access to those inside. Transparent armor provides a wide field of view of the machine and surrounding areas. Cat armor protection solutions give operators the scalability they need to adapt to changing environments and conditions.

CPK Protection Levels Available
STANAG 4569 Annex A Level 2
STANAG 4569 Annex A Level 3

Military Modifications

- | | | |
|---|---|--|
| <ul style="list-style-type: none">• Armored cab with additional storage boxes• Reduced height cab for C-130 air transportability• MIL-STD-209K lift and tie downs• JP8 compatible• 24V starting and charging with 75 Amp alternator | <ul style="list-style-type: none">• Auxiliary hydraulic hand tool circuit• NATO start receptacle• Blackout lights• Large diameter fuel filler (2.9 in / 75 mm)• Fuel Tank Capacity 200L• Cab rifle bracket | <ul style="list-style-type: none">• Hydraulic adjustable pallet forks• Custom military paint• Fire extinguisher mount• Keyless ignition• Runflats• Tire pressure monitoring system (TPMS) |
|---|---|--|



MIL-STD-209K lift and tie downs.

Large diameter fuel filter.

Blackout lights

Consult Caterpillar Defense for specific details on military modifications.



Cat Loader Work Tools

General Purpose (GP) Bucket

Multi Purpose (MP) Bucket

Side Dump Bucket

Brooms

Rakes

Forks

Material Handling Arms

Snow Plows

Hydraulic Adjustable Forks

See a full list of available work tools here:



Powerful and flexible front loader.

The 432 BHL front loader arms deliver optimum reach and dump height. Its loader linkage provides maximum breakout forces with parallel lift for high efficiency loading and material handling.

Ensuring the machine is always ready to switch from task to task, the machine’s loader is equipped with a convenient quick coupler allowing operators to change between a wide variety of work tools in less than 30 seconds. The electronic loader controls enable programmable loader kickout and return to dig.

Loader Control

Load sensing piston pump provides full hydraulic lifting and digging forces at any engine speed. A variable flow pump matches hydraulic power to work demands.

Loader Lever

Provides additional machine control by offering the Forward, Neutral and Reverse control switch at the operator’s fingertips.

Superior backhoe digging and loading forces.

Boom

The curved, narrow boom provides added clearance for tasks that require digging over rubble or other obstacles and enhances visibility to the work tool and surface. Its robust swing casting and double clevis design improves durability and reliability.

Stick

The optional extendable stick (E-stick) increases reach and dig by up to 4 ft (1.2 m).

Note: Additional prep time required for air deployability with E-stick.

Thumbs

Thumb mounting provisions add to the 432 BHL’s versatility, giving operators the option to connect mechanical or hydraulic thumbs (standard stick only).

Quick Coupler

Backhoe quick couplers make rear work tool exchange quick and easy. Its dual lock coupler has a self-adjusting wedge design to ensure a tight fit and it also features a safety lock that automatically engages.



Cat Backhoe Work Tools

Standard Duty Bucket

Heavy Duty Bucket

Heavy Duty Rock Bucket

Soil Excavation Bucket

Coral Digging Bucket

Ditch Digging Bucket

Cold Planers

Hammers

Augers

Rippers

Vibratory Plate Compactors

Thumbs
(mechanical and hydraulic)

Support and Serviceability

Easy to maintain. Ready for work.

Convenient service features make maintenance easy, reducing your downtime.

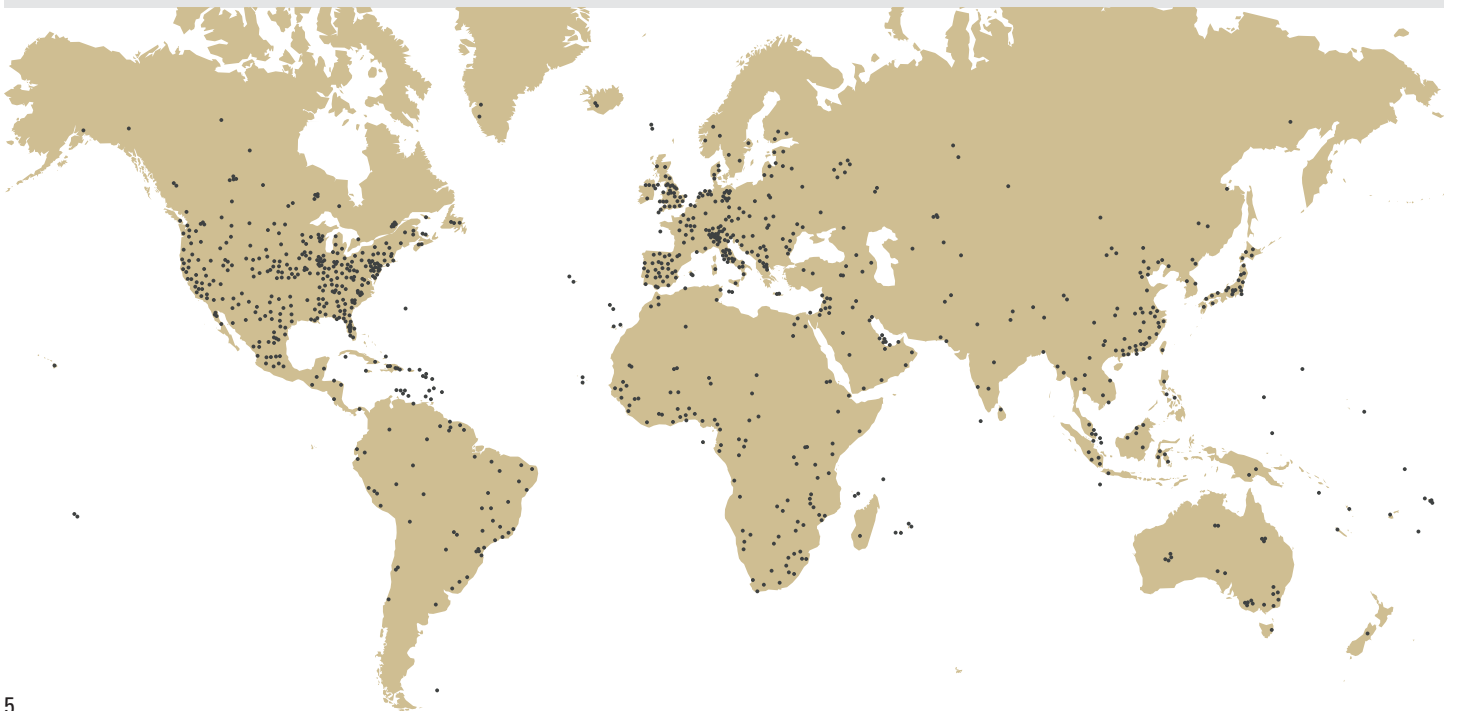
- Hinged cooling pack provides easy access
- Tilt up hood provides easy, convenient access to all engine check points
- Engine side panels remove easily without the use of tools

Worldwide Service Capabilities

Cat dealer field service technicians have the experience and tools necessary to service your machine on-site. Field service trucks are fully loaded with state-of-the-art tools and diagnostic equipment, as well as specifications and schematics for every Cat machine. Technical experts at the dealership and the Caterpillar team is also available to provide assistance to field service technicians. When on-site repair isn't enough, Cat dealerships are fully-equipped to service your ADL quickly.

Dealer Support

The Caterpillar global network of dealers is the best in the world at providing support to keep your ADL up and running. With over 99% of customer orders shipped the same day, Cat dealers are partners in support.



Operating Specifications

Engine	
MODEL	Cat® 3054C 74.5kW Mechanically Turbocharged
Gross Power	
SAE J1995 (hp/kW)	101 / 75
ISO 14396 (hp/kW)	100 / 74
Rated Net Power @ 2,200 rpm	
SAE J1349 (hp/kW)	94 / 70
ISO 9249 (hp/kW)	95 / 71
Net Peak Power @ 2,200 rpm	
SAE J1349 (hp/kW)	94 / 70
ISO 9249 (hp/kW)	95 / 71
Bore (in/mm)	4.13 / 105
Stroke (hp/kW)	5 / 127
Displacement (in³/L)	268 / 4.4
Net Torque Rise @ 1,400 rpm	31%
Net Peak Torque SAE J1349 (lb-ft/Nm)	293 / 397
Power Rating Conditions	
No De-Rating Required Up To (ft/m)	7,500 / 2286

Cat 3054C engine meets U.S. EPA Tier2/EU Stage II equivalent emissions standards.

Transmission*	
Autoshift Transmission	
Forward - 1st (mph/km/h)	3.7 / 6
- 2nd (mph/km/h)	5.9 / 9.5
- 3rd (mph/km/h)	7.7 / 12.5
- 4th (mph/km/h)	12.3 / 19.8
- 5th (mph/km/h)	16.9 / 27.3
- 6th (mph/km/h)	24.8 / 40
Reverse - 1st (mph/km/h)	3.7 / 6
- 2nd (mph/km/h)	7.7 / 12.5
- 3rd (mph/km/h)	16.9 / 27.3

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

Weights*		
Operating Weight		
Estimated (lb/kg)	18,616 / 8444	
Maximum (ROPS Capacity) (lb/kg)	24,251 / 11 000	
Cab, ROPS/FOPS	Standard	
Autoshift Transmission	Standard	
Ride Control (lb/kg)	33 / 15	
Air Conditioning	Standard	
All-Wheel Drive	Standard	
MP Bucket (1.25yd³/.96m³)		
With Fold-Over Forks (lb/kg)	1,896 / 860	
Without Fold-Over Forks (lb/kg)	1,347 / 611	
Loader, Quick Coupler (lb/kg)	408 / 185	
4.3 m Extendible Stick (lb/kg) <i>excludes front counter weight</i>	439 / 199	
4.9 m Extendible Stick (lb/kg) <i>excludes front counter weight</i>	783 / 355	
Counterweights - Option 1 (lb/kg)	255 / 115	
Counterweights - Option 2 (lb/kg)	530 / 240	
Counterweights - Option 3 (lb/kg)	1,015 / 460	
Minimum Counterweight Recommendations - Standard Stick		
Loader Bucket	No QC	IT Loader w/QC
GP (lb/kg)	530 / 240	1,015 / 460
MP (lb/kg)	0 / 0	1,015 / 460
Minimum Counterweight Recommendations - Extendible Stick		
Loader Bucket	No QC	IT Loader w/QC
GP (lb/kg)	1,015 / 460	1,015 / 460
MP (lb/kg)	254 / 115	1,015 / 460
Total Gross Weight Not to Exceed (lb/kg) - 24,251 / 11 000		

*Machine configuration - LRC 74.5 kW engine; 14.1ft4.3 m standard stick hoe; standard cab with A/C; AWD Autoshift transmission; 1.35 yd³/1.03 m³ MP loader bucket; 23.6 in/600 mm standard duty hoe bucket; 340/80-18 and 440/80-28 tires; no counterweight; 176 lb/80 kg operator; full fuel tank.

Operating Specifications

Hydraulic System

Type	Closed Center
Pump Type	Variable Flow, Axial Piston
Pump Capacity @ 2,200 rpm (gpm/Lpm)	49.4 / 187
System Pressure - Backhoe (psi/kPa)	3,626 / 25 000
System Pressure - Loader (psi/kPa)	3,626 / 25 000

Service Refill Capacities

Cooling System with Air Conditioning (gal/L)	4.8 / 18
Fuel Tank (gal/L)	42.3 / 160
Engine Oil with Filter (gal/L)	2.4 / 9
Transmission - Autoshift	
AWD (gal/L)	5 / 19
Rear Axle (gal/L)	4.2 / 16
Planetaries (gal/L)	0.4 / 1.7
Front Axle - 4WD (gal/L)	2.9 / 11
Planetaries (gal/L)	0.2 / 0.7
Hydraulic System (gal/L)	25.1 / 95
Hydraulic Tank (gal/L)	11.1 / 42

Tires

Front	340 / 80-18
Rear	440 / 80-24

Axle Rating

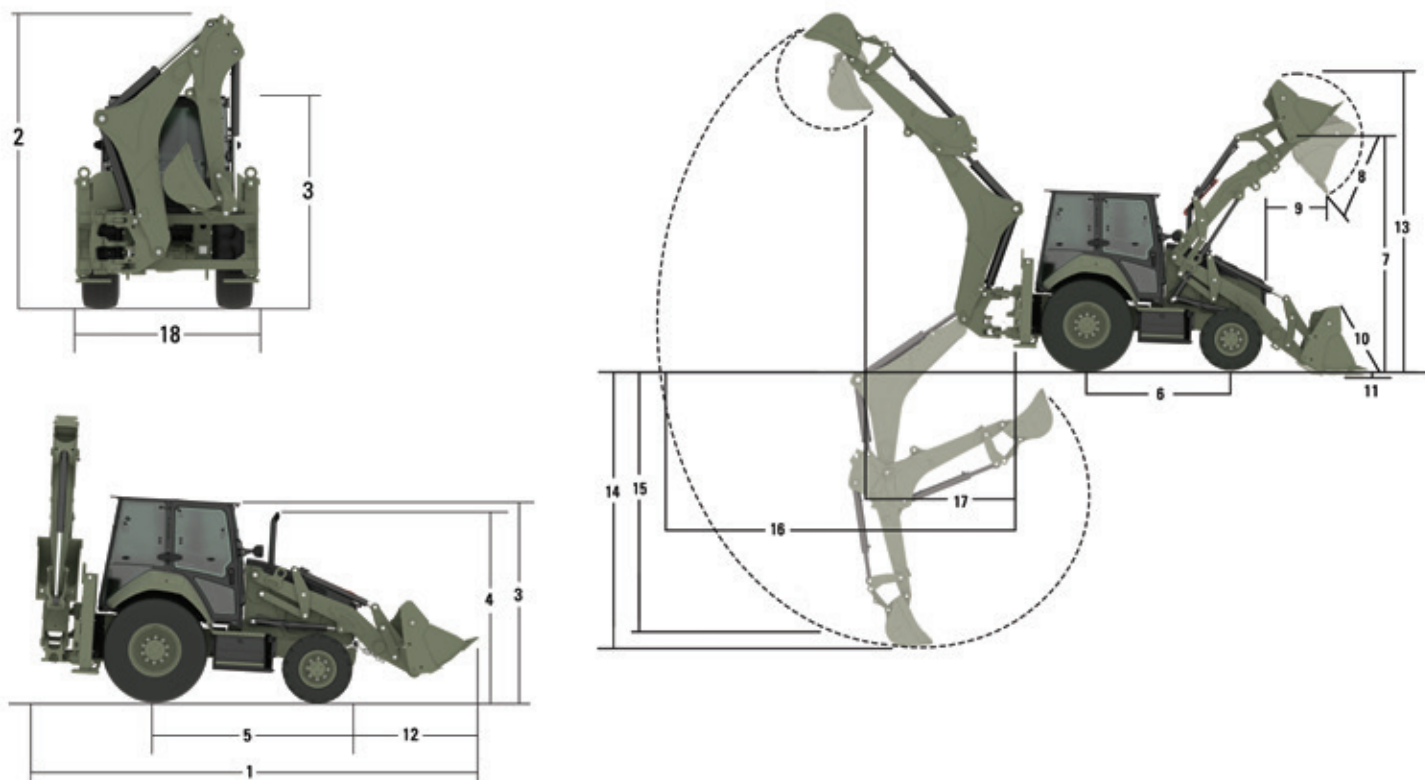
Front Axle - 4WD	
Static (lb/kg)	51,808 / 23 500
Dynamic (lb/kg)	19,841 / 9000
Rear Axle	
Static (lb/kg)	58,422 / 26 500
Dynamic (lb/kg)	22,046 / 10 000

Steering

Type	Front Wheel
Power Steering	Hydrostatic
Axle Oscillation	11°
Turning Circle - AWD (inner wheel not braked)	
Outside, Front Wheels (ft/m)	26.9 / 8.21
Outside, Widest Loading Bucket (ft/m)	35.25 / 10.75

*Specifications shown are for a machine equipped with ADL cab, AWD, MP bucket, 530lb/240kg counterweight and military modifications.

Dimensions*



	Parallel Lift Loader			Parallel Lift Loader w/QC	
	GP Bucket (1.31 yd ³ /1.0 m ³)	MP Bucket (1.35 yd ³ / 1.03 m ³)	MP Bucket w/Forks (1.35 yd ³ / 1.03 m ³)	GP Bucket w/QC (1.31 yd ³ / 1.0 m ³)	MP Bucket w/QC (1.35 yd ³ / 1.03 m ³)
1) Overall Length - in Rooding Position (in/mm)	227 / 5763	226 / 5744	226 / 5744	230 / 5847	227 / 5760
Overall Transport Length (in/mm)	227 / 5775	226 / 5731	226 / 5731	232 / 5884	227 / 5778
2) Overall Transport Height (in/mm)	150 / 3806	150 / 3806	150 / 3806	150 / 3806	150 / 3806
Overall Width (in/mm)	93 / 2352	93 / 2352	93 / 2352	93 / 2352	93 / 2352
3) Height to Top of Cab/Canopy - Commercial (in/mm)	111 / 2822	111 / 2822	111 / 2822	111 / 2822	111 / 2822
Height to Top of Cab/Canopy - ADL (in/mm)	104 / 2642	104 / 2642	104 / 2642	104 / 2642	104 / 2642
4) Height to Top of Exhaust Stack - Commercial (in/mm)	107 / 2715	107 / 2715	107 / 2715	107 / 2715	107 / 2715
Height to Top of Exhaust Stack - ADL (in/mm)	100 / 2553	100 / 2553	100 / 2553	100 / 2553	100 / 2553
5) Rear Axle Centerline to Front Grill (in/mm)	106 / 2705	106 / 2705	106 / 2705	106 / 2705	106 / 2705
6) Wheelbase AWD (in/mm)	87 / 2200	87 / 2200	87 / 2200	87 / 2200	87 / 2200

Dimensions and performance specifications shown are for machines equipped with 12.5/80-18 SGL front tires 16.9-28 rear tires, standard cab, 4.3 m standard stick with 24 in/600 mm standard duty bucket, and 1.35 yd³/1.03 m³ MP loader bucket and standard equipment unless otherwise specified.

Standard equipment may vary.
Consult Caterpillar Defense for details.
All dimensions are approximate and may vary with configuration.
Specific military service configurations are available upon request.

Loader Bucket Dimensions and Performance

	Parallel Lift Loader		Parallel Lift Loader w/QC	
	MP Bucket (1.35 yd³/ 1.03 m³)	MP Bucket w/Forks (1.35 yd³/ 1.03 m³)	GP Bucket w/QC (1.31 yd³/ 1.0 m³)	MP Bucket w/QC (1.35 yd³/ 1.03 m³)
Capacity - SAE rated (yd³/m³)	1.35 / 1.03	1.35 / 1.03	1.35 / 1.03	1.35 / 1.03
Overall Bucket Width (in/mm)	95 / 2406	95 / 2406	95 / 2406	95 / 2406
Lift Capacity at Maximum Height (lb/kg)	7,690 / 3488	7,282 / 3303	7,736 / 3509	7,227 / 3278
Lift Breakout Force (lbf/N)	11,972 / 53 252	11,586 / 51 536	11,616 / 51 669	11,430 / 50 841
Tilt Breakout Force (lbf/N)	13,454 / 59 845	13,241 / 58 900	10,841 / 48 223	12,005 / 53 400
Tipping Load at Breakout Point (lb/kg)	14,714 / 6674	14,370 / 6518	13,574 / 6157	13,975 / 6339
7) Maximum Hinge Pin Height (in/mm)	136 / 3462	136 / 3462	136 / 3462	136 / 3462
8) Dump Angle at Full Height (degrees)	45°	45°	45°	45°
Dump Height at Maximum Angle (in/mm)	109 / 2780	109 / 2780	105 / 2669	108 / 2749
9) Dump Reach at Maximum Angle (in/mm)	29 / 732	29 / 732	33 / 838	31 / 784
10) Maximum Bucket Rollback at Ground Level (degrees)	39°	39°	39°	38°
11) Digging Depth (in/mm)	5 / 132	5 / 132	5 / 137	4 / 118
Maximum Grading Angle (degrees)	116°	116°	112°	114°
12) Grill to Bucket Cutting Edge, Carry Position (in/mm)	58 / 1471	58 / 1471	62 / 1571	59 / 1487
13) Maximum Operating Height (in/mm)	172 / 4365	172 / 4365	171 / 4361	174 / 4407
Weight - Does not include teeth or forks (lb/kg)	1,347 / 611.2	1,554 / 705	1,012 / 459	1,537 / 697

Backhoe Dimensions and Performance

	Standard Stick 14.1 ft / 4.3 m	E-Stick Retracted 14.1 ft / 4.3 m	E-Stick Extended 14.1 ft / 4.3 m	E-Stick Retracted 16.1 ft / 4.9 m	E-Stick Extended 16.1 ft / 4.9 m
14) Digging Depth, SAE - Maximum (in/mm)	169 / 4289	169 / 4301	208 / 5292	183 / 4636	223 / 5665
Digging Depth, SAE - Manufacturer's Maximum (in/mm)	188 / 4778	188 / 4782	224 / 5700	205 / 5201	243 / 6169
15) Digging Depth, 96 in/2440 mm Flat Bottom (in/mm)	154 / 3915	154 / 3919	196 / 4987	169 / 4293	211 / 5373
Digging Depth, 24 in/610 mm Flat Bottom (in/mm)	168 / 4255	168 / 4259	206 / 5254	182 / 4611	222 / 5632
Digging Depth, 24 in/610 mm Flat Bottom, Manufacturer's (in/mm)	187 / 4753	187 / 4758	224 / 5700	203 / 5164	242 / 6150
Reach from Rear Axle Centerline at Ground Line (in/mm)	265 / 6741	255 / 6476	302 / 7672	284 / 7218	322 / 8169
16) Reach from Swing Pivot at Ground Line (in/mm)	222 / 5651	223 / 5656	259 / 6582	241 / 6128	279 / 7079
Maximum Operating Height (in/mm)	100 / 5665	100 / 5666	100 / 6265	100 / 6321	100 / 6956
Loading Height (in/mm)	157 / 3991	157 / 4000	181 / 4599	179 / 4555	208 / 5280
17) Loading Reach (in/mm)	67 / 1690	65 / 1639	98 / 2501	61 / 1559	91 / 2319
Swing Arc (degree)	180°	180°	180°	180°	180°
Bucket Rotation (degree)	205°	205°	205°	205°	205°
18) Stabilizer Overall Width (in/mm)	93 / 2352	93 / 2352	93 / 2352	93 / 2352	93 / 2352
Bucket Dig Force (lbf/N)	14,263 / 63 447	14,257 / 63 419	14,257 / 63 419	14,259 / 63 427	14,259 / 63 427
Stick Dig Force (lbf/N)	9,630 / 42 835	9,790 / 43 548	7,136 / 31 743	10,622 / 47 251	7,909 / 35 180

Power Train

- Air cleaner
- Brake, secondary parking
- Brakes, hydraulically boosted, oil disc, dual pedals, interlocking
- Cold weather package, including additional battery, engine block heater, radiator antifreeze, cold weather fuel (-22° F/-30° C) and mounting for an ether bottle
- Coolant/antifreeze, extended life
- Diagnostic port for engine, machine and gauge cluster Electronic Control Modules
- Differential lock, loader joystick
- Engine, Cat 3054C, Mechanical Turbocharged, meets Tier 2/Stage II equivalent emission standards
- Engine enclosure, sound suppression removal panels
- Fast reversing shuttle, all gears
- Filters, spin-on: fuel, engine oil, transmission oil, water separator
- Filters, bowl and cartridge: hydraulic fluid
- High ambient cooling package
- Torque converter
- Transmission, Autoshift
- Transmission, six speed, synchromesh
- Transmission neutralizer switch
- Four wheel drive

Hydraulic System

- Adjustable auxiliary controls, backhoe loader
- Joystick hoe controls: pilot operated, excavator-style with pattern changer
- Face seals, O-ring
- Hydraulic hose, XT™
- Hydraulic lines, combined function auxiliary
- Hydraulic oil cooler
- Hydraulic oil level sight gauge
- Hydraulic valve, hydrostatic steering
- Hydraulic valves, loader 3 function
- Hydraulic valves, backhoe 6 function
- Hydraulics, load sensing with variable displacement piston pump
- Hydraulics, loader with E/H control and quick coupler

Electrical System

- Alarm, back-up
- Audible system fault alarm
- Battery, maintenance-free, 1,000 CCA
- Battery disconnect switch
- Dome light
- Flashing hazards/signal lights
- Lights, working (2 front, 2 rear)
- Power receptacle, 12 volt, 2 internal, 1 external
- Socket, two roof
- Starting system, glow plugs
- Stop and tail lights
- Warning horn, electric

Operator Environment

- Cab, ROPS/FOPS
- Drink holders, two
- Fan, suction and guard
- Floor mat
- Gauge cluster includes: coolant temperature, fuel level, tachometer
- Indicators: air cleaner service, water separator service, engine coolant, oil pressure, torque converter temperature high, fuel level, charging, engine warning #1, engine warning #2, action lamp, wait to start
- Instrument panel lights
- Mirror, rear-view
- Pattern changer, in cab
- Ride control
- Seat belt, retractable, 3 in/75 mm
- Steering knob
- Seat, suspension, vinyl
- Storage tray
- Tilt steering column
- Throttle, hand and foot, manual

Other

- Boom transport lock
- Brace, lift cylinder
- Cat cushion swing system
- Counterweight, bumper
- Counterweights, 255 lb/115 kg, 530 lb/240 kg or 1,015 lb/460 kg*
- Fenders, front with integral steps*
- Fenders, rear
- Fuel tank, fully enclosed
- Fully hinged front grill for cooling package cleaning access
- Ground level fuel fill
- Guard, boom protection plate
- Guard, stabilizer, rock
- Hood lock, under cab
- Loader, self-leveling, return-to-dig and transmission disconnect switch
- Quick Coupler, hydraulic, dual lock*
- Rotating beacon, magnetic mount*
- Swing transport lock
- Tires
- Toolbox, external, lockable
- Vandalism locks, four
- Work Tool Attachments such as buckets, forks, material handling arms, augers, hammers, brooms, cold planer and vibratory plate compactors (optional - contact Caterpillar Defense)*

**Optional.*

Standard equipment may vary.

Consult Caterpillar Defense for details.

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