



Cat® 420F/420F IT

BACKHOE LOADER

FEATURES:

- **Operator Station** – Air suspension seat and ergonomic joystick controls provide a comfortable working environment.
- **Load Sensing Hydraulics** – Electronic pump control provides better pump response for improved hoe and loader productivity, performance and power management.
- **Superior Power** – New larger torque converter delivers greater pushing power, increased aggressiveness in hard bank and faster roading and hill climbing.
- **Loader Performance** – New front loader arms deliver more reach, dump height and breakout.
- **Backhoe Design** – New beefier swing casting and double clevis design improves durability and reliability.
- **Versatility** – A wide array of Cat® Work Tools lets you do more jobs with one machine. A hydraulic thumb is also available. The hydraulic coupler makes work tool changes quick and easy.

Specifications

Engine

Engine Model	Cat® C4.4 ACERT™	
Gross Power		
SAE J1995	76 kW	102 hp
ISO 14396	74 kW	100 hp
Rated Net Power @ 2,200 rpm		
SAE J1349	69 kW	93 hp
ISO 9249/EEC 80/1269	70 kW	94 hp
Net Peak Power @ 1,800 rpm		
SAE J1349	71 kW	95 hp
ISO 9249	72 kW	97 hp
EEC 80/1269	72 kW	97 hp
Bore	105 mm	4.13 in
Stroke	127 mm	5 in
Displacement	4.4 L	268 in ³
Net Torque Rise @ 1,400 rpm	46%	
SAE J1349	438 N-m	323 lb-ft

- Engine meets U.S. EPA Tier 4 Interim/EU Stage IIIB emission standards.

Weights*

Operating Weight – Nominal	6895 kg	15,201 lb
Operating Weight – Maximum	11 000 kg	24,251 lb
Cab, ROPS/FOPS	184 kg	406 lb
AutoShift Transmission	54 kg	119 lb
Ride Control	14 kg	31 lb
Air Conditioning	55 kg	121 lb
Four Wheel Drive	160 kg	353 lb
MP Bucket (1.0 m ³ /1.31 yd ³) (no forks or teeth)	745 kg	1,642 lb
Loader, IT with Quick Coupler	197 kg	434 lb
Extendible Stick	272 kg	599 lb
Counterweights (Option 1)	115 kg	255 lb
Counterweights (Option 2)	240 kg	530 lb
Counterweights (Option 3)	460 kg	1,015 lb

*Specifications shown are for machine equipped with 0.96 m³ (1.25 yd³) general purpose loader bucket, 610 mm (24 in) heavy duty backhoe bucket, 115 kg (255 lb) counterweight, 80 kg (176 lb) operator and full fuel tank.

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Transmission

Power Shuttle Transmission – Standard

Forward – 1st	6 km/h	3.7 mph
2nd	9.6 km/h	5.9 mph
3rd	20 km/h	12 mph
4th	40 km/h	25 mph
Reverse – 1st	6 km/h	3.7 mph
2nd	9.6 km/h	5.9 mph
3rd	20 km/h	12 mph
4th	40 km/h	25 mph

AutoShift Transmission – Optional

Forward – 1st	5.9 km/h	3.7 mph
2nd	9.5 km/h	5.9 mph
3rd	20 km/h	12 mph
4th	27 km/h	17 mph
5th	41 km/h	25 mph
Reverse – 1st	5.9 km/h	3.7 mph
2nd	13 km/h	7.8 mph
3rd	27 km/h	17 mph

Axle Ratings

Front Axle, 2WD

Static	22 964 kg	50,582 lb
Dynamic	9186 kg	20,233 lb

Front Axle, 4WD

Static	22 964 kg	50,582 lb
Dynamic	9186 kg	20,233 lb

Rear Axle

Static	22 964 kg	50,582 lb
Dynamic	9186 kg	20,233 lb

Hydraulic System

Type	Closed Center	
Pump Type	Variable Flow, Axial Piston	
Pump Capacity @ 2,200 rpm	163 L/min	43 gal/min
System Pressure – Backhoe	25 000 kPa	3,600 psi
System Pressure – Loader	25 000 kPa	3,600 psi

Steering

Type	Front Wheel	
Power Steering	Hydrostatic	
Bore	65 mm	2.6 in
Stroke	120 mm	4.7 in
Rod Diameter	36 mm	1.4 in
Axle Oscillation	11°	
Turning Circle – 2WD/4WD (inner wheel not braked)		
Outside, Front Wheels	8.18 m	26'10"
Outside, Widest Loading Bucket	10.97 m	36'0"

Service Refill Capacities

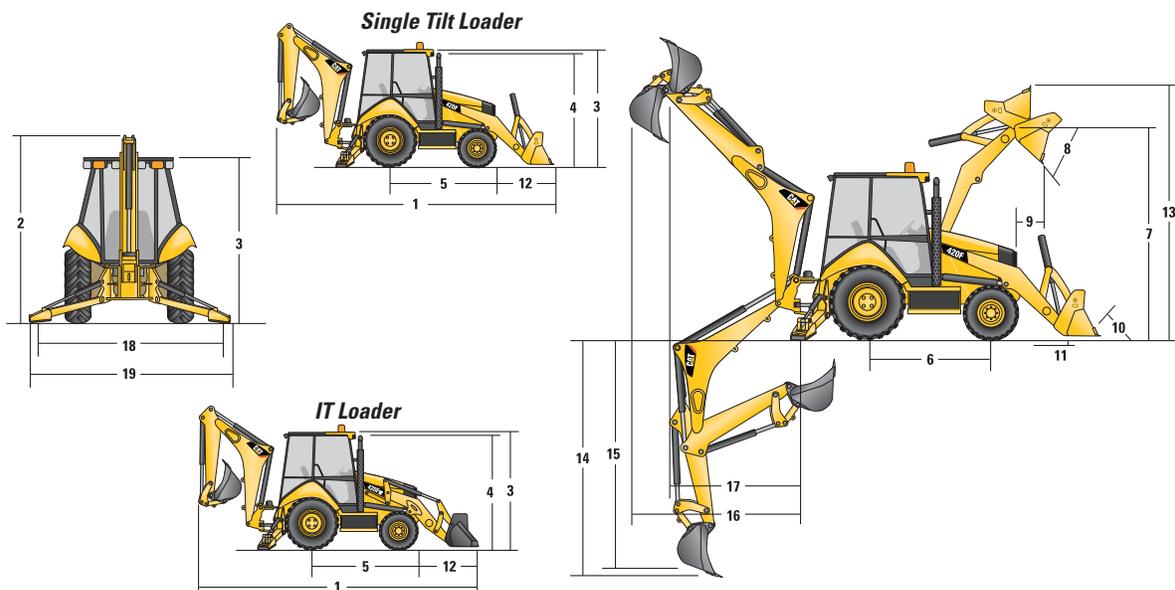
Cooling System with Air Conditioning	22 L	5.8 gal
Fuel Tank	170 L	45 gal
Engine Oil with Filter	7.6 L	2.0 gal
Transmission – Power Shuttle		
2WD	18.5 L	4.9 gal
4WD	18.5 L	4.9 gal
Transmission – AutoShift		
4WD	19.0 L	5.0 gal
Rear Axle	16.5 L	4.4 gal
Planetaries	1.7 L	0.4 gal
Front Axle (4WD)	11.0 L	2.9 gal
Planetaries	0.7 L	0.2 gal
Hydraulic System	95.0 L	25.1 gal
Hydraulic Tank	42.0 L	11.1 gal

- Requires ultra-low sulfur fuel ≤ 15 ppm fuel sulfur

Tires

Choices listed as combination of front/rear tires:

- 11L-16 (12 ply) F-3/19.5L-24 (12 ply) R4 ATU
- 12.5/80-18 (12 ply) 1-3/19.5L-24 (12 ply) ATU
- 12.5/80-18 NHS (12 ply) 1-3/21L-24 (16 ply) R4 ATU
- 340/80R 18/19.5L-24 (12 ply) R4 ATU
- 340/80R 18/500/70R 24 RT



Dimensions

	Single Tilt Loader				IT Loader with Quick Coupler			
	0.96 m ³ (1.25 yd ³) GP Bucket		1.00 m ³ (1.31 yd ³) MP Bucket		0.96 m ³ (1.25 yd ³) GP Bucket		1.00 m ³ (1.31 yd ³) MP Bucket	
1 Overall Length (Loader on Ground) – Standard Stick	7141 mm	23' 5"	7059 mm	23' 2"	7289 mm	23' 11"	7197 mm	23' 7"
Overall Length (Loader on Ground) – Extendible Stick	7147 mm	23' 5"	7064 mm	23' 2"	7295 mm	23' 11"	7203 mm	23' 8"
Overall Transport Length – Standard Stick	7169 mm	23' 6"	7133 mm	23' 5"	7282 mm	23' 11"	7211 mm	23' 8"
Overall Transport Length – Extendible Stick	7175 mm	23' 6"	7139 mm	23' 5"	7288 mm	23' 11"	7217 mm	23' 8"
2 Overall Transport Height – Standard Stick	3577 mm	11' 9"						
Overall Transport Height – Extendible Stick	3631 mm	11' 11"						
Overall Width	2322 mm	7' 7"						
3 Height to Top of Cab/Canopy	2819 mm	9' 3"						
4 Height to Top of Exhaust Stack	2744 mm	9' 0"						
Height to Loader Hinge Pin (Transport)	381 mm	1' 3"	432 mm	1' 5"	396 mm	1' 4"	386 mm	1' 3"
Ground Clearance (minimum)	320 mm	1' 1"						
5 Rear Axle Centerline to Front Grill	2705 mm	8' 10"						
Front Wheel Tread Gauge	1895 mm	6' 3"						
Rear Wheel Tread Gauge	1714 mm	5' 7"						
6 Wheelbase 2WD/4WD	2200 mm	7' 3"						

Loader Bucket Dimensions and Performance

	Single Tilt Loader				IT Loader with Quick Coupler			
	0.96 m ³ (1.25 yd ³) GP Bucket		1.00 m ³ (1.31 yd ³) MP Bucket		0.96 m ³ (1.25 yd ³) GP Bucket		1.00 m ³ (1.31 yd ³) MP Bucket	
Capacity (SAE Rated)	0.96 m ³	1.25 yd ³	1.0 m ³	1.31 yd ³	0.96 m ³	1.25 yd ³	1.0 m ³	1.31 yd ³
Overall Bucket Width	2262 mm	89 in	2279 mm	90 in	2262 mm	89 in	2279 mm	90 in
Lift Capacity at Maximum Height	3283 kg	7,237 lb	3097 kg	6,828 lb	3716 kg	8,193 lb	3448 kg	7,601 lb
Lift Breakout Force	49 809 N	11,197 lb	49 019 N	11,020 lb	51 085 N	11,484 lb	49 678 N	11,168 lb
Tilt Breakout Force	50 190 N	11,283 lb	57 555 N	12,938 lb	46 314 N	10,411 lb	50 380 N	11,325 lb
Tipping Load at Breakout Point	6751 kg	14,882 lb	6839 kg	15,078 lb	6692 kg	14,754 lb	6805 kg	15,004 lb
7 Maximum Hinge Pin Height	3474 mm	11' 5"	3474 mm	11' 5"	3490 mm	11' 5"	3490 mm	11' 5"
8 Dump Angle at Full Height	44°		44°		44°		44°	
Dump Height at Maximum Angle	2746 mm	9' 0"	2798 mm	9' 2"	2679 mm	8' 9"	2745 mm	9' 0"
9 Dump Reach at Maximum Angle	808 mm	2' 8"	716 mm	2' 4"	869 mm	2' 10"	814 mm	2' 8"
10 Maximum Bucket Rollback at Ground Level	37°		38°		40°		39°	
11 Digging Depth	83 mm	3"	110 mm	4"	105 mm	4"	95 mm	4"
Maximum Grading Angle	112°		116°		110°		112°	
Width of Dozer Cutting Edge	N/A		2262 mm	7' 5"	N/A		2262 mm	7' 5"
12 Grill to Bucket Cutting Edge, Carry Position	1487 mm	4' 11"	1451 mm	4' 9"	1600 mm	5' 3"	1529 mm	5' 0"
13 Maximum Operating Height	4355 mm	14' 3"	4404 mm	14' 5"	4407 mm	14' 6"	4480 mm	14' 8"
Jaw Opening Maximum	N/A		790 mm	2' 7"	N/A		790 mm	2' 7"
Bucket Jaw Clamping Force	N/A		55 700 N	12,521 lb	N/A		55 700 N	12,521 lb
Weight (does not include teeth or forks)	451 kg	994 lb	745 kg	1,642 lb	447 kg	985 lb	724 kg	1,596 lb

Backhoe Dimensions and Performance

	Standard Stick		E-Stick Retracted		E-Stick Extended	
14 Digging Depth, SAE (max.)	4360 mm	14' 4"	4390 mm	14' 5"	5442 mm	17' 11"
15 Digging Depth, 610 mm (2 ft) Flat Bottom	4311 mm	14' 2"	4351 mm	14' 4"	5405 mm	17' 9"
Reach from Rear Axle Centerline at Ground Line	6702 mm	22' 1"	6737 mm	22' 2"	7742 mm	25' 6"
16 Reach from Swing Pivot at Ground Line	5612 mm	18' 5"	5647 mm	18' 7"	6652 mm	21' 10"
Maximum Operating Height	5522 mm	18' 1"	5546 mm	18' 3"	6282 mm	20' 8"
Loading Height	3642 mm	11' 11"	3599 mm	11' 10"	4169 mm	13' 8"
17 Loading Reach	1842 mm	6' 1"	1929 mm	6' 4"	2844 mm	9' 4"
Swing Arc	180°		180°		180°	
Bucket Rotation	205°		205°		205°	
18 Stabilizer Spread, Operating Position (center)	3310 mm	10' 10"	3310 mm	10' 10"	3310 mm	10' 10"
Stabilizer Spread, Operating Position (outside)	3770 mm	12' 4"	3770 mm	12' 4"	3770 mm	12' 4"
Stabilizer Spread, Transport Position	2322 mm	7' 7"	2322 mm	7' 7"	2322 mm	7' 7"
Bucket Dig Force	62 659 N	14,086 lb	61 780 N	13,889 lb	61 780 N	13,889 lb
Stick Dig Force	43 510 N	9,781 lb	43 402 N	9,757 lb	31 682 N	7,122 lb

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STANDARD EQUIPMENT

- Air cleaner
- Alarm, back-up
- Audible system fault alarm
- Automatic Engine Speed Control (AESC)
- Battery, maintenance-free, 880 CCA
- Battery disconnect switch
- Battery remote jumpstart
- Boom transport lock
- Brace, lift cylinder
- Brake, secondary parking
- Brakes, hydraulically boosted, oil disc, dual pedals, interlocking
- Bucket level indicator
- Canopy, ROPS/FOPS
- Cat cushion swing system
- Coat hook
- Coolant/antifreeze, extended life
- Counterweight, bumper
- Diesel particulate filter, long life
- Dome light (cab only)
- Diagnostic port for engine, machine and gauge cluster Electronic Control Modules
- Differential lock
- Engine, Cat C4.4 ACERT (Direct Injection Turbocharged), meets U.S. EPA Tier 4 Interim/EU Stage IIIB emission standards
- Engine enclosure
- Face seals, O-ring
- Fan, suction and guard
- Fast reversing shuttle, all gears
- Fenders, rear
- Filters, spin-on: fuel, engine oil, transmission oil, water separator
- Filters, bowl and cartridge: hydraulic fluid
- Flashing hazards/signal lights
- Floor mat
- Fully hinged front grill for cooling package cleaning access
- Gauge Cluster:
 - Gauges: coolant temperature, fuel level, tachometer
 - LCD screen: hour meter, torque converter oil temperature, hydraulic oil temperature, operator settings, service mode diagnostics
- Ground level fuel fill
- Guard, fuel tank bottom
- High ambient cooling package
- Hood lock
- Hydraulic hose, XT™
- Hydraulic oil cooler
- Hydraulic oil level sight gauge
- Hydraulic valve, hydrostatic steering
- Hydraulic valves, loader 2 function
- Hydraulic valves, backhoe 5 function
- Hydraulics, load sensing with variable displacement piston pump
- Indicators: air cleaner service, water separator service, engine coolant, oil pressure, hydraulic temperature, hydraulic bypass
- Instrument panel lights
- Joystick controls: pilot operated, excavator-style with pattern changer
- Key start/stop system
- Lights, working (4 front, 4 rear)
- Loader, self-leveling, return-to-dig and transmission disconnect switch
- Loader, single tilt
- Lunch box and drink holder
- Mirror, rearview
- One-touch low idle
- Open circuit breather
- Pattern changer, in cab
- Power receptacle, 12 volt, 2 internal, 1 external
- Power steering, hydrostatic
- Radio ready cab
- Seat belt, retractable, 51 mm (2 in)
- Stabilizer shoes, street
- Steering knob
- Seat, air suspension, fabric or vinyl cover, with armrest
- Starting system, glow plugs
- Steering, hydrostatic
- Storage compartment, internal
- Stop and tail lights
- Swing transport lock
- Tilt steering wheel
- Tires
- Toolbox, external, lockable
- Torque converter
- Throttle, hand and foot, electronic
- Transmission, four speed, syncromesh
- Transmission neutralizer switch
- Transport tie-downs
- Two Wheel Drive
- Vandalism locks
- Warning horn, electric

OPTIONAL EQUIPMENT

- Battery, additional, 880 CCA
- Cab, deluxe
- Cab, deluxe with air conditioning
- Cold weather fuel (-30° C/-22° F)
- Cold weather package, including additional battery, engine block heater, radiator antifreeze, cold weather fuel (-30° C/-22° F) and mounting for an ether bottle
- Counterweights, 115 kg (255 lb), 240 kg (530 lb) or 460 kg (1,015 lb)
- Fenders, front with integral steps
- Fenders, rear extensions
- Four Wheel Drive
- Guard, boom protection plate
- Guard, stabilizer, rock
- Guard, fuel tank front and rear
- Hydraulic valves, loader (3rd valve for GP, MP or Quick Coupler)
- Hydraulic valves, backhoe 6 function
- Hydraulic lines, combined function auxiliary
- Loader, IT with Quick Coupler and pilot loader control
- Machine Security System
- Product Link
- Quick Coupler, manual, dual lock
- Quick Coupler, pin lock
- Ride Control
- Rotating beacon, magnetic mount
- Seat belt, 75 mm (3 in)
- Stabilizer pads, reversible
- Stick, extendible
- Storage box
- Transmission, AutoShift
- Vandalism protection, gauge cover
- Work Tool Attachments such as buckets, forks, material handling arms, augers, hammers, brooms, cold planers and vibratory plate compactors. See your Cat dealer for more information.

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