

# 416F

## Backhoe Loader



### Engine

Engine Model	Cat® C4.4 ACERT™	
Rated Net Power – SAE J1349	65 kW	87 hp
Rated Net Power – ISO 9249	66 kW	88 hp

### Weights

Operating Weight – Nominal	6783 kg	14,953 lb
Operating Weight – Maximum	11 000 kg	24,251 lb

### Backhoe

Dig Depth – Standard	4360 mm	14'4"
Dig Depth – E-Stick Extended	5441 mm	17'11"

## Features

### Industry Leading Cab

*Standard air suspension seat, extra legroom and ergonomic controls can help make you more comfortable for a more productive work day.*

### Braking Performance

*New boosted hydraulic brakes improve braking performance with less operator effort.*

### Superior Power

*Greater pushing power and increased aggressiveness in hard bank loading delivers outstanding performance.*

### Load Sensing Hydraulics

*Variable displacement piston pump delivers flow and pressure to get the job done, while saving fuel all day long.*

### Outstanding Performance

*New front loader arms deliver more reach, dump height and breakout. New larger torque converter delivers increased rimpull.*

### Cat Durability

*New backhoe swing structures provide more durability in the toughest applications.*

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**Experience the difference of a Cat Backhoe Loader. Spacious operator station features ergonomic controls, ample legroom and an air suspension seat that can help keep you comfortable all day long. Built for greater reach, dump height, breakout force and pushing power, the Cat 416F helps you get more done to improve your bottom line.**

# Operator Station

Spacious working environment for all day comfort.



## Backhoe Controls

Two mechanical control patterns are available – two lever excavator and two lever backhoe. Ergonomic, permanently attached foot pedals control auxiliary functions.



### **Superior Comfort**

The ergonomic, automotive style operator station helps you work comfortably and productively all day long. Select the configuration that meets your needs – Canopy, Deluxe Cab or Deluxe Cab with air conditioning. Features include:

- Adjustable air suspension seat (standard)
- Excellent visibility over the hood
- Easy-to-read gauge cluster
- Ample legroom
- Storage compartments for tools and belongings

### **Ride Control**

The optional Ride Control System smooths the ride in all conditions, including load and carry, highway roading or simply moving around the job site. The result can be increased operator comfort, potentially reducing operator fatigue, and improved material retention.

### **Premium Gauge Cluster**

The new gauge cluster provides a digital display of system information such as fluid temperatures, hour meter and operator settings.



# Power Train

Built for performance, power and fuel efficiency.



## Cat Engine

The Cat C4.4 ACERT engine provides quieter operation while delivering superior performance and durability. The engine meets U.S. EPA Tier 4 Interim and EU Stage IIIB emission standards. The engine also features:

- Passive regeneration system requiring no operator interaction
- Long life diesel particulate filter
- Improved fuel efficiency

## Transmission

The standard power shuttle transmission provides four speeds forward and reverse. Hydraulically shifted clutches allow on-the-go direction and travel speed shifts.

- Hydraulic proportional control valves deliver smooth speed and directional shifts.
- Four Wheel Drive option improves mobility and loader performance in poor underfoot conditions and can be activated on-the-go.
- Maximum roading speed of 40 km/h (25 mph) improves travel time between job sites.

## Brake Mode Selector

Brake mode selector switch has three positions: two wheel drive, two wheel drive with all wheel braking and four wheel drive. Two wheel drive with all wheel braking provides better tire life while roading and engages the front axle when brakes are applied for improved braking performance. Brake mode selector is included in the 4WD package.



## Hydraulics

Load-sensing system matches power to demand.

### Powerful Hydraulic System

The load-sensing, closed center hydraulic system matches pressure and flow to the job demands. Whether you're in full trenching mode or digging around delicate services, you are in control. In applications such as production trenching where speed is important, the system will provide the flow needed to get the job done quickly and efficiently. The load-sensing hydraulic system also delivers:

- Better fuel efficiency
- Quieter operation
- Reduced wear on components
- Cooler hydraulic temperatures
- Full dig and lift forces at any engine speed



# Backhoe Performance

## Superior digging forces.

## Loader Performance

### Powerful new front loader.

New front loader arms deliver more reach, dump height and breakout.

#### Single Tilt

The standard single tilt loader linkage features strong lift and breakout forces for solid performance in backfilling and truck loading applications with pin-on buckets. The 416F is equipped with either a general purpose or multi-purpose pin-on bucket to meet your specific needs.

#### Return-to-Dig

The return-to-dig system reduces loading cycle times by bringing the loader bucket back to the dig position with an easy pull of the lever. By the time the loader bucket is at ground level, the bucket is angled correctly for the next load or cut.

#### Boom

The excavator-style boom is built for optimum performance and durability. The curved design provides added clearance when digging over obstacles or loading trucks. The narrow boom enhances the viewing area to the bucket and the trench throughout the operating range. More robust swing casting and double clevis design improves durability and reliability.

#### Stick

Serrated edges on the stick provide improved material clamping for clearing and demolition applications. The optional extendible stick (E-stick) increases reach and dig depth by approximately 1.2 m (4 ft).

#### Thumbs

Thumb mounting provisions are standard on every Cat Backhoe Loader for added machine versatility. Cat hydraulic thumbs are available for increased versatility. Mechanical thumbs are also available through your Cat dealer.







# Work Tools

Do more jobs with one machine.

## Backhoe Work Tools

Increase the versatility of your machine with the large selection of backhoe attachments:

- Buckets – Standard Duty, Heavy Duty, Heavy Duty Rock, Soil Excavation, Coral and Ditch Cleaning
- Cold Planers
- Hammers
- Augers
- Rippers
- Thumbs (mechanical and hydraulic)
- Vibratory Plate Compactors
- Quick Couplers

## Loader Work Tools

A wide range of loader attachments is available including:

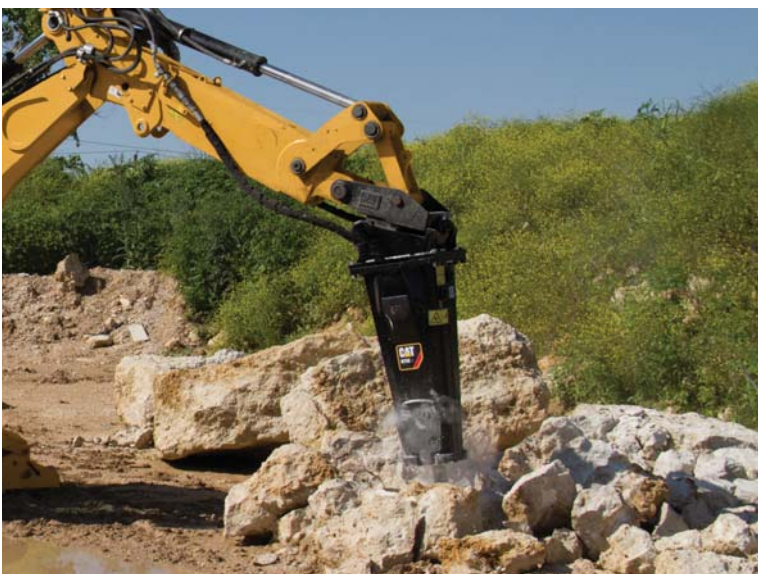
- General Purpose Bucket
- Multi Purpose Bucket
- Side Dump Bucket
- Light Material Bucket
- Forks

## Diagonal Retention System

Heavy duty bucket teeth are attached with diagonal pins rather than horizontal pins for easy exchange without the use of special tools.

## Backhoe Quick Coupler

Manual or hydraulic backhoe couplers make rear tool exchange quick and easy. New Cat dual lock coupler has a self-adjusting wedge design to ensure a tight fit. It also features a safety lock that automatically engages.



# Serviceability

Easy maintenance helps keep your machine working.



## Minimize Your Downtime

Convenient service features makes 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
- Cat Product Link™ system (optional) provides remote reporting of machine location and operating system parameters

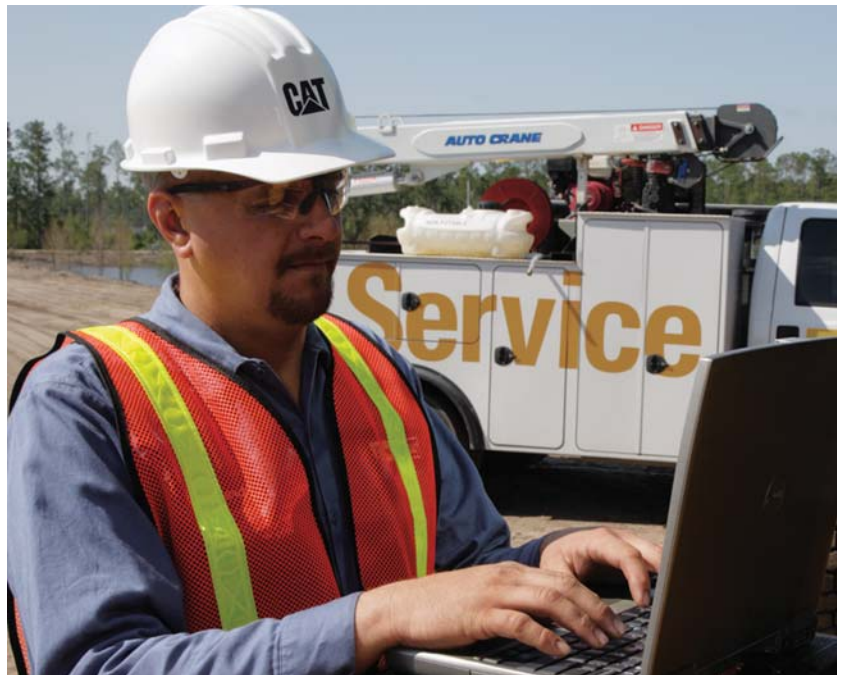
# Customer Support

Unmatched support makes the difference.

## Renowned Dealer Support

From helping you choose the right machine to knowledgeable ongoing support, Cat dealers provide the best in sales and service.

- Preventive maintenance programs and guaranteed maintenance contracts
- Best-in-class parts availability
- Operator training to help boost your profits
- Genuine Cat Remanufactured parts



## Engine

Engine Model	Cat C4.4 ACERT	
Gross Power		
SAE J1995	72 kW	97 hp
ISO 14396	70 kW	94 hp
Rated Net Power @ 2,200 rpm		
SAE J1349	65 kW	87 hp
ISO 9249	66 kW	88 hp
EEC 80/1269	66 kW	88 hp
Net Peak Power @ 1,800 rpm		
SAE J1349	67 kW	90 hp
ISO 9249	68 kW	91 hp
EEC 80/1269	68 kW	91 hp
Bore	105 mm	4.13 in
Stroke	127 mm	5 in
Displacement	4.4 L	268 in <sup>3</sup>
Net Torque Rise @ 1,400 rpm – SAE J1349	37%	
Net Peak Torque @ 1,400 rpm	390 N·m	288 lb-ft

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

## Weights\*

Operating Weight – Nominal	6783 kg	14,953 lb
Operating Weight – Maximum	11 000 kg	24,251 lb
Cab, ROPS/FOPS	167 kg	368 lb
Air Conditioning	26 kg	57 lb
Four Wheel Drive	180 kg	397 lb
MP Bucket (0.96 m <sup>3</sup> /1.25 yd <sup>3</sup> ) (no forks or teeth)	745 kg	1,642 lb
Extendible Stick	301 kg	664 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 0.76 m<sup>3</sup> (1.0 yd<sup>3</sup>) 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.

## Transmission

Power Shuttle Transmission – Standard			
Forward – 1st	6 km/h	3.7 mph	
Forward – 2nd	9.6 km/h	5.9 mph	
Forward – 3rd	20 km/h	12 mph	
Forward – 4th	40 km/h	25 mph	
Reverse – 1st	6 km/h	3.7 mph	
Reverse – 2nd	9.6 km/h	5.9 mph	
Reverse – 3rd	20 km/h	12 mph	
Reverse – 4th	40 km/h	25 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	132 L/min	35 gal/min
System Pressure – Backhoe	23 000 kPa	3,300 psi
System Pressure – Loader	23 000 kPa	3,300 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"

# 416F Specifications

## Service Refill Capacities

Cooling System with Air Conditioning	22 L	5.8 gal
Fuel Tank	165 L	44 gal
Engine Oil with Filter	8.8 L	2.3 gal
Transmission – Power Shuttle		
2WD	18.5 L	4.9 gal
4WD	18.5 L	4.9 gal
Rear Axle	16.5 L	4.4 gal
Planetarys	1.7 L	0.4 gal
Front Axle (4WD)	11.0 L	2.9 gal
Planetarys	0.7 L	0.2 gal
Hydraulic System	90.0 L	23.8 gal
Hydraulic Tank	40.0 L	10.6 gal

- Requires ultra-low sulfur fuel  $\leq$  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

## Operating Specifications – Backhoe

Turning Circle: Outside, Front Wheels	8.18 m	26'10"
Turning Circle: Outside, Widest	10.97 m	36'0"
Loading Bucket		

- ISO 5010.
- 2WD, 4WD (inner wheel not braked).

## Engine Features

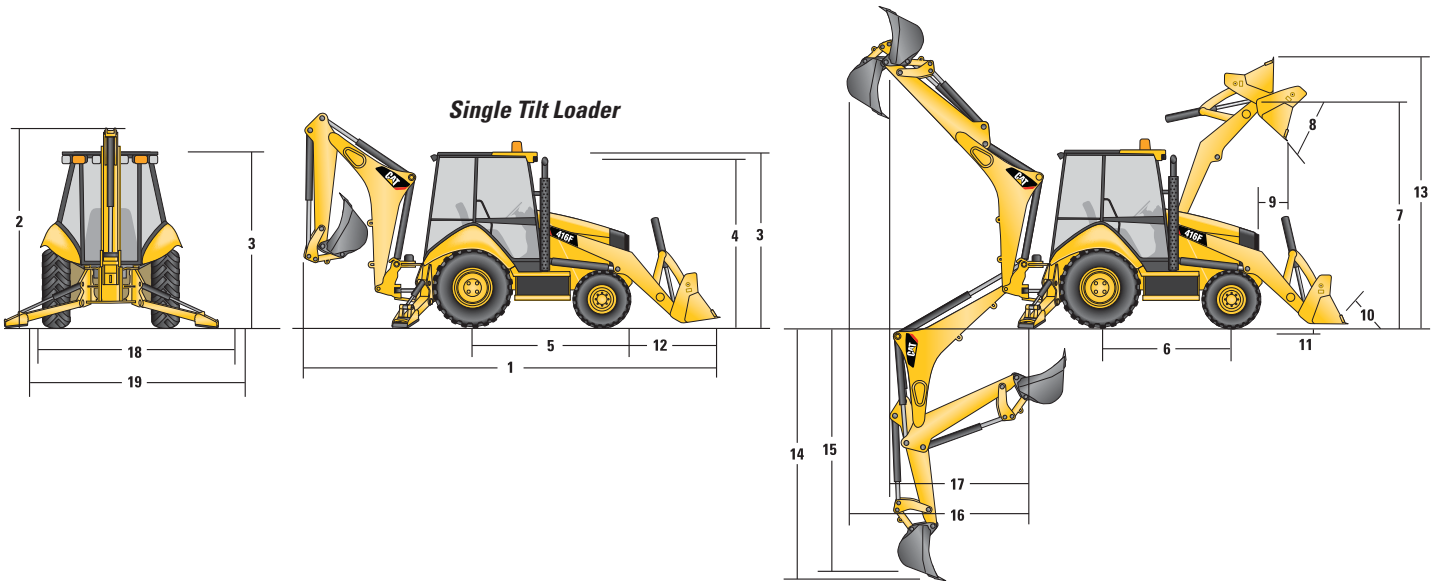
- Regeneration is passive and does not require any input from the operator or disrupt work.
- Three-ring pistons made of lightweight, silicon/aluminum alloy for strength and maximum thermal conductivity.
- Forged chrome/molybdenum-steel crankshaft with salt bath nitrocarburized pins and journals.
- Front and rear crankshaft oil seals are “lip” type Viton and PTFE designs featuring an integral dust lip.
- For durability, inlet valves are nitrided, martensitic chrome silicon steel, while exhaust valves are nitrided, austenitic chrome manganese-nickel steel.
- Cylinder block is high strength, cast iron alloy of deep skirt, monobloc design for increased strength and long life.
- Cylinder head is high strength, cast iron alloy construction with extra duty wall and deck thickness. Intake and exhaust ports are precision cast to promote optimum gas flow.
- Direct injection fuel system provides accurate fuel delivery and efficiency.
- Dry-type axial seal air cleaner with integral precleaner, automatic dust ejection system, and filter condition indicator.
- Direct electric, 12-volt starting and charging system with 880 CCA Group 31 maintenance free battery.
- Standard glow plug starting aid system for efficient cold weather starting.
- High contact ratio/gear train, peripheral fixed isolation top cover and open deck block design reduce bare engine noise.
- Higher low end torque for better engine/machine performance.
- Engine is equipped with electric fuel priming pump.

## Brakes

Features:

- Brakes meet the following standards: SAE J1473 and ISO 3450 requirements.
- Self-adjusting, completely enclosed and sealed.
- 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 an adjustable hand lever located on the right console.

## Machine Dimensions



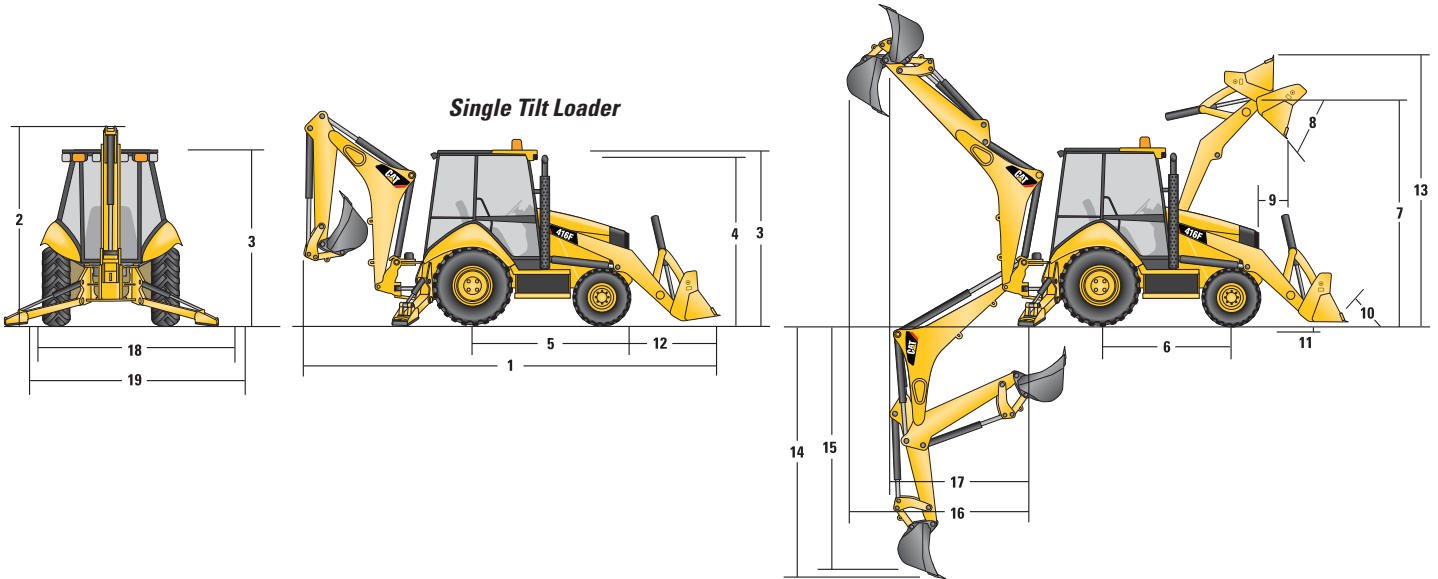
Single Tilt Loader

	General Purpose (0.76 m <sup>3</sup> /1.00 yd <sup>3</sup> )	General Purpose (0.96 m <sup>3</sup> /1.25 yd <sup>3</sup> )	Multi Purpose (1.00 m <sup>3</sup> /1.31 yd <sup>3</sup> )	Multi Purpose with Forks (1.00 m <sup>3</sup> /1.31 yd <sup>3</sup> )
<b>1</b> Overall Transport Length	7085 mm 23'3"	7168 mm 23'6"	7132 mm 23'5"	7132 mm 23'5"
Overall Length (loader on ground)	7027 mm 23'1"	7140 mm 23'5"	7057 mm 23'2"	7057 mm 23'2"
<b>2</b> Overall Transport Height – Standard Stick	3577 mm 11'9"	3577 mm 11'9"	3577 mm 11'9"	3577 mm 11'9"
Overall Transport Height – Extendible Stick	3631 mm 11'11"	3631 mm 11'11"	3631 mm 11'11"	3631 mm 11'11"
Overall Width	2322 mm 7'7"	2322 mm 7'7"	2322 mm 7'7"	2322 mm 7'7"
<b>3</b> Height to Top of Cab/Canopy	2819 mm 9'3"	2819 mm 9'3"	2819 mm 9'3"	2819 mm 9'3"
<b>4</b> Height to Top of Exhaust Stack	2744 mm 9'0"	2744 mm 9'0"	2744 mm 9'0"	2744 mm 9'0"
Height to Loader Hinge Pin (transport)	381 mm 1'3"	381 mm 1'3"	432 mm 1'5"	432 mm 1'5"
Ground Clearance (minimum)	320 mm 1'1"	320 mm 1'1"	320 mm 1'1"	320 mm 1'1"
<b>5</b> Rear Axle Centerline to Front Grill	2705 mm 8'10"	2705 mm 8'10"	2705 mm 8'10"	2705 mm 8'10"
Front Wheel Tread Gauge	1895 mm 6'3"	1895 mm 6'3"	1895 mm 6'3"	1895 mm 6'3"
Rear Wheel Tread Gauge	1714 mm 5'7"	1714 mm 5'7"	1714 mm 5'7"	1714 mm 5'7"
<b>6</b> Wheelbase 2WD/AWD	2200 mm 7'3"	2200 mm 7'3"	2200 mm 7'3"	2200 mm 7'3"

Dimensions and performance specifications shown are for machines equipped with 12.5/80-18 SGL front tires, 19.5L-24 IT525 rear tires, ROPS canopy, standard stick with 610 mm (24 in) standard duty bucket, 0.76 m<sup>3</sup> (1.00 yd<sup>3</sup>) loader bucket and standard equipment unless otherwise specified.

# 416F Specifications

## Loader Bucket Dimensions and Performance

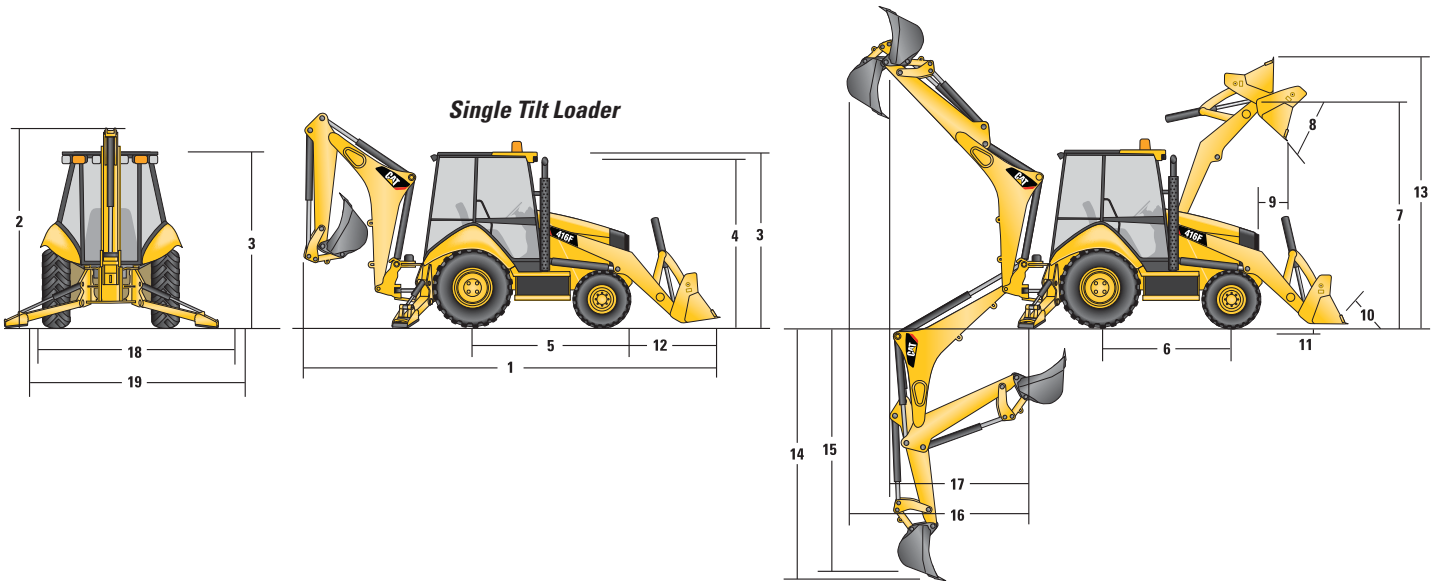


Single Tilt Loader

	General Purpose (0.76 m <sup>3</sup> /1.00 yd <sup>3</sup> )		General Purpose (0.96 m <sup>3</sup> /1.25 yd <sup>3</sup> )		Multi Purpose (1.00 m <sup>3</sup> /1.31 yd <sup>3</sup> )		Multi Purpose with Forks (1.00 m <sup>3</sup> /1.31 yd <sup>3</sup> )	
Capacity (SAE rated)	0.76 m <sup>3</sup>	1.00 yd <sup>3</sup>	0.96 m <sup>3</sup>	1.25 yd <sup>3</sup>	1.00 m <sup>3</sup>	1.31 yd <sup>3</sup>	1.00 m <sup>3</sup>	1.31 yd <sup>3</sup>
Overall Bucket Width	2262 mm	89"	2262 mm	89"	2279 mm	90"	2279 mm	90"
Lift Capacity at Maximum Height	3062 kg	6,751 lb	2964 kg	6,535 lb	2771 kg	6,108 lb	2656 kg	5,855 lb
Lift Breakout Force	47 919 N	10,772 lb	45 326 N	10,189 lb	44 392 N	9,979 lb	42 904 N	9,645 lb
Tilt Breakout Force	54 629 N	12,281 lb	45 993 N	10,339 lb	52 674 N	11,841 lb	51 760 N	11,636 lb
<b>7</b> Maximum Hinge Pin Height	3474 mm	11'5"	3474 mm	11'5"	3474 mm	11'5"	3474 mm	11'5"
<b>8</b> Dump Angle at Full Height	44°		44°		44°		44°	
Dump Height at Maximum Angle	2824 mm	9'3"	2746 mm	9'0"	2798 mm	9'2"	2798 mm	9'2"
<b>9</b> Dump Reach at Maximum Angle	727 mm	2'5"	808 mm	2'8"	716 mm	2'4"	716 mm	2'4"
<b>10</b> Maximum Bucket Rollback at Ground Level	37°		37°		38°		38°	
<b>11</b> Digging Depth	83 mm	3"	83 mm	3"	110 mm	4"	110 mm	4"
Maximum Grading Angle	116°		112°		116°		116°	
Width of Dozer Cutting Edge	N/A		N/A		2262 mm	7'5"	2262 mm	7'5"
<b>12</b> Grill to Bucket Cutting Edge, Carry Position	1404 mm	4'7"	1487 mm	4'11"	1451 mm	4'9"	1451 mm	4'9"
<b>13</b> Maximum Operating Height	4206 mm	13'10"	4355 mm	14'3"	4404 mm	14'5"	4878 mm	16'0"
Jaw Opening Maximum	N/A		N/A		790 mm	2'7"	790 mm	2'7"
Bucket Jaw Clamping Force	N/A		N/A		50 600 N	11,375 lb	50 600 N	11,375 lb
Weight (does not include teeth or forks)	384 kg	847 lb	451 kg	994 lb	745 kg	1,642 lb	915 kg	2,017 lb

Dimensions and performance specifications shown are for machines equipped with 12.5/80-18 SGL front tires, 19.5L-24 IT525 rear tires, ROPS canopy, standard stick with 610 mm (24 in) standard duty bucket, 0.76 m<sup>3</sup> (1.00 yd<sup>3</sup>) loader bucket and standard equipment unless otherwise specified.

## Backhoe Dimensions and Performance



	Standard Stick		E-Stick Retracted		E-Stick Extended	
<b>14</b> Digging Depth, SAE (maximum)	4360 mm	14'4"	4389 mm	14'5"	5441 mm	17'11"
<b>15</b> Digging Depth, 610 mm (2 ft) Flat Bottom	4309 mm	14'2"	4350 mm	14'4"	5404 mm	17'10"
Reach from Rear Axle Centerline at Ground Line	6702 mm	22'1"	6738 mm	22'2"	7742 mm	25'6"
<b>16</b> Reach from Swing Pivot at Ground Line	5612 mm	18'5"	5648 mm	18'7"	6652 mm	21'10"
Maximum Operating Height	5525 mm	18'2"	5549 mm	18'3"	6286 mm	20'8"
Loading Height	3643 mm	11'11"	3600 mm	11'9"	4170 mm	13'7"
<b>17</b> Loading Reach	1838 mm	6'0"	1925 mm	6'4"	2840 mm	9'4"
Swing Arc	108°		108°		108°	
Bucket Rotation	205°		205°		205°	
<b>18</b> 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	57 709 N	12,973 lb	56 898 N	12,791 lb	56 898 N	12,791 lb
Stick Dig Force	32 378 N	7,279 lb	32 421 N	7,289 lb	23 796 N	5,350 lb

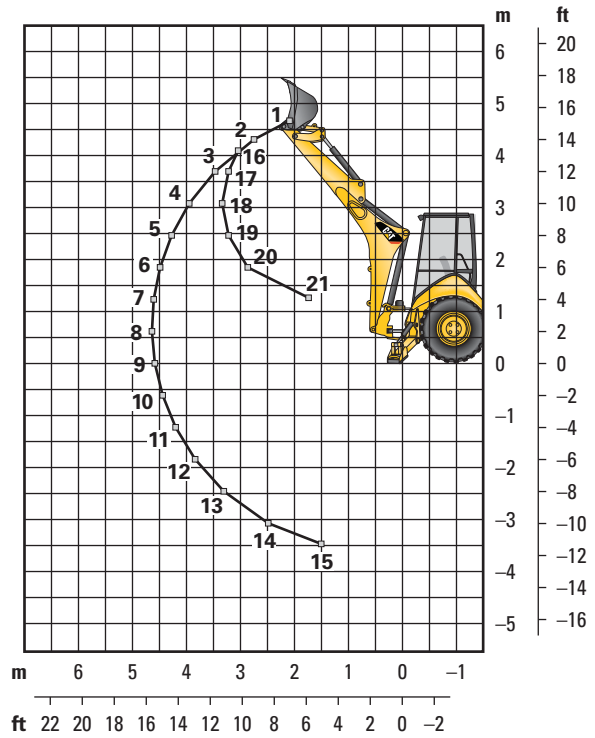
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# 416F Specifications

## Backhoe Lift Capacity

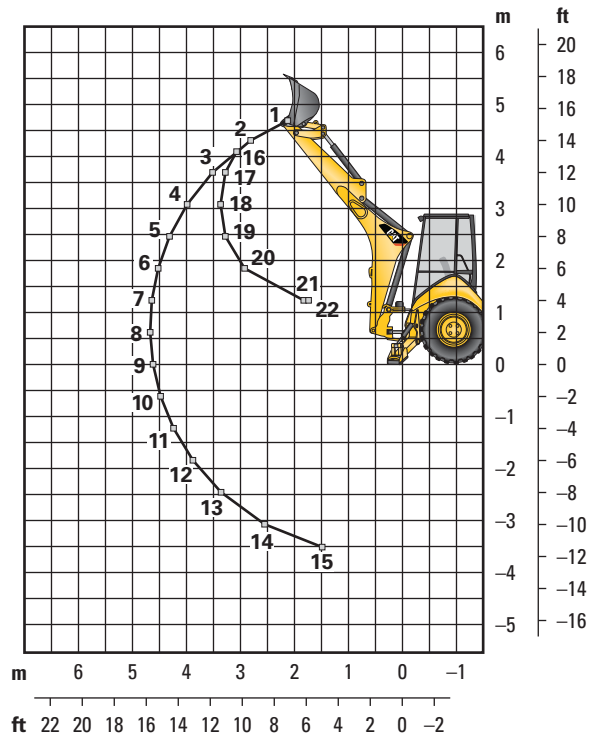
### Cat 416F Standard Stick

Boom Lifting	kg	lb
1	1295	2,848
2	1408	3,097
3	1417	3,117
4	1376	3,027
5	1323	2,911
6	1268	2,790
7	1215	2,673
8	1165	2,562
9	1118	2,459
10	1075	2,364
11	1036	2,279
12	1002	2,204
13	977	2,149
14	974	2,143
15	1067	2,348
Stick Lifting	kg	lb
16	1311	2,884
17	1848	4,066
18	2306	5,072
19	2397	5,274
20	2787	6,130
21	5556	12,223



### Cat 416F Extendible Stick – Retracted

Boom Lifting	kg	lb
1	1116	2,455
2	1214	2,672
3	1213	2,669
4	1168	2,570
5	1113	2,449
6	1056	2,324
7	1001	2,203
8	949	2,088
9	900	1,981
10	855	1,881
11	813	1,788
12	775	1,705
13	742	1,633
14	724	1,592
15	776	1,707
Stick Lifting	kg	lb
16	1168	2,570
17	1693	3,724
18	2107	4,635
19	2183	4,803
20	2533	5,573
21	4985	10,967
22	5331	11,729



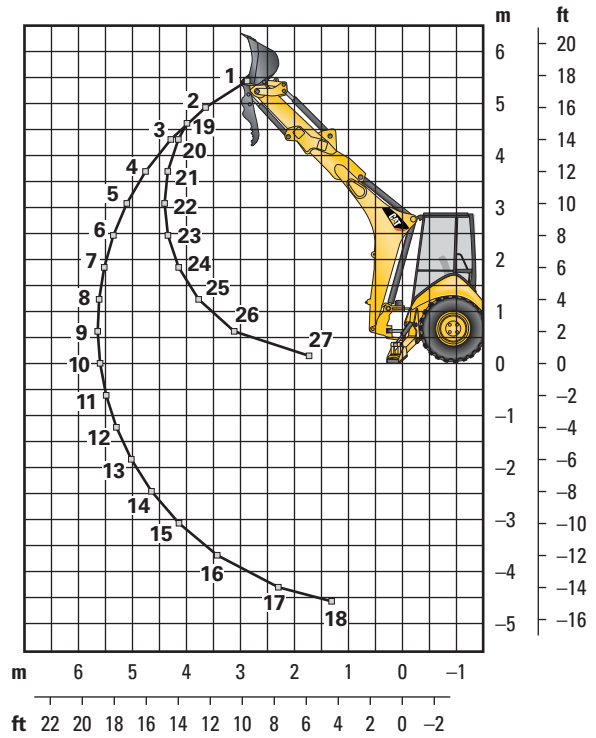
Lift Capacities are over-end values. Machine equipped with 4WD, OROPS, 0.76 m<sup>3</sup> (1.00 yd<sup>3</sup>) general purpose bucket and 116 kg (255 lb) counterweight. Extendible stick includes 460 kg (1,015 lb) counterweight.



## Backhoe Lift Capacity

### Cat 416F Extendible Stick – Extended

Boom Lifting	kg	lb
1	615	1,353
2	749	1,648
3	796	1,752
4	803	1,766
5	792	1,742
6	768	1,689
7	751	1,652
8	727	1,600
9	703	1,547
10	680	1,497
11	659	1,449
12	639	1,405
13	622	1,368
14	609	1,340
15	604	1,329
16	616	1,355
17	705	1,550
18	1042	2,293
Stick Lifting	kg	lb
19	550	1,209
20	733	1,613
21	985	2,166
22	1159	2,551
23	1305	2,870
24	1458	3,207
25	1676	3,688
26	2189	4,816
27	5303	11,666



Lift Capacities are over-end values. Machine equipped with 4WD, OROPS, 0.76 m<sup>3</sup> (1.00 yd<sup>3</sup>) general purpose bucket and 116 kg (255 lb) counterweight. Extendible stick includes 460 kg (1,015 lb) counterweight.

# 416F Specifications

## Counterweights

### Minimum Counterweight Recommendations

Standard Stick			
Loader Bucket	Power Train	kg	lb
GP	2WD	240	530
GP	4WD	115	255
MP	2WD/4WD	no counterweight	

Extendible Stick			
Loader Bucket	Power Train	kg	lb
GP	2WD/4WD	460	1,015
GP	2WD	240	530
MP	4WD	115	255

## Backhoe Buckets

With weld on adapters and pin-on teeth

Standard Duty						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft <sup>3</sup>	kg	lb	
305	12	80	2.8	111	245	3
457	18	120	4.2	122	268	4
610	24	180	6.2	141	291	5
762	30	230	8.1	157	345	5
914	36	290	10.2	176	388	6

Heavy Duty						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft <sup>3</sup>	kg	lb	
305	12	80	2.8	121	266	3
406	16	110	3.9	128	282	3
457	18	120	4.2	135	299	4
610	24	180	6.2	151	333	5
762	30	230	8.1	177	391	5
914	36	290	10.2	201	443	6

Soil Excavation						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft <sup>3</sup>	kg	lb	
457	18	180	6.4	155	341	4
610	24	240	8.5	182	402	5
762	30	320	11.3	206	454	5
914	36	380	13.4	233	513	6

Heavy Duty Rock						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft <sup>3</sup>	kg	lb	
305	12	70	2.5	127	279	3
457	18	130	4.6	146	322	4
610	24	200	7.0	174	381	5
762	30	270	9.5	197	434	5
914	36	330	11.7	224	493	6

Coral						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft <sup>3</sup>	kg	lb	
305	12	60	2.1	134	295	4
457	18	100	3.5	155	341	6
610	24	140	4.9	182	402	8
762	30	190	6.7	210	463	10

Heavy Duty – Pin Lock						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft <sup>3</sup>	kg	lb	
305	12	96	3.4	113	249	3
406	16	123	4.3	131	288	3
457	18	139	4.9	139	307	4
610	24	207	7.3	168	370	5
762	30	275	9.7	194	428	5
914	36	345	12.2	224	494	6

High Capacity – Pin Lock						
Width		Rated Capacity		Weight		No. of Teeth
mm	in	L	ft <sup>3</sup>	kg	lb	
305	12	96	4.6	113	287	3
406	16	123	5.6	131	327	3
457	18	139	6.5	139	346	4
610	24	207	9.6	168	414	5
762	30	275	12.9	194	475	5
914	36	345	16.2	224	543	6

## Standard Equipment

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

- Air cleaner
- Alarm, back-up
- Alternator, 150 amp
- Audible system fault alarm
- Backhoe position footrest
- 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
- Coat hook
- Coolant/antifreeze, extended life
- Counterweight, bumper
- Diesel particulate filter, long life
- Dome light (cab only)
- Diagnostic port for engine
- Differential lock
- Engine, Cat C4.4 ACERT (Direct Injection Turbocharged), meets U.S. EPA Tier 4 Interim/EU Stage IIIB emission standards
- Engine enclosure
- 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
- Floor mat
- Flow-sharing hydraulic valves
- Fuel priming pump, electric
- Fully hinged front grill for cooling package cleaning access
- Ground level fuel fill
- Guard, fuel tank bottom
- Hazard flashers/turn signals
- 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 4 function
- Hydraulics, load sensing with variable displacement piston pump
- 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
- Key start/stop system
- Lights, working (2 front, 2 rear)
- Load sensing, variable flow system
- Loader, self-leveling, return-to-dig and transmission disconnect switch
- Loader, single tilt
- Lunch box and drink holder
- Mirror, rearview
- Open circuit breather
- O-ring face seal hydraulic fittings
- Power receptacle, 12 volt, 2 internal, 1 external
- Power steering, hydrostatic
- Premium Gauge Cluster:
  - Gauges: coolant temperature, fuel level, tachometer
  - LCD screen: hour meter, torque converter oil temperature, operator settings, service mode diagnostics
- 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
- 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

## 416F Optional Equipment

### Optional Equipment

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

- Battery, additional, 880 CCA
- Cab, standard
- Cab, standard with air conditioning
- Cold weather fuel (–30° C/–22° F)
- Cold weather package, including additional battery, engine block heater, radiator antifreeze (–50° C/–58° F), 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/Brake Mode Selector
- 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 (5th and 6th function)
- Hydraulic lines, combined function auxiliary
- Machine Security System
- Product Link
- Quick Coupler, manual, dual lock
- Quick Coupler, pin lock
- Radio ready cab
- Ride Control
- Rotating beacon, magnetic mount
- Seat belt, 75 mm (3 in)
- Stabilizer pads, grouser type
- Stabilizer pads, reversible
- Stick, extendible
- Storage box
- 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.

# 416F Backhoe Loader

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AEHQ6861-01 (10-2012)  
Replaces AEHQ6861

