



JOHN DEERE

CONSTRUCTION EQUIPMENT

BACKHOES



MODEL NO.

310G 310SG 410G 710G



G-Series

- >73 net hp, 78 net hp with turbocharger
- >14-ft. 3-in. backhoe digging depth
17-ft. 11-in. with extendable dipperstick
- >8,500-lb. loader breakout force, 1.0-cu.-yd. bucket
- >15,090-lb. typical operating weight



CONSTRUCTION EQUIPMENT

BACKHOES




MODEL NO.

310G

All the backhoe you may ever need.

Don't let its competitive price fool you. With many of the same features found on our bigger backhoes, the 310G comes equipped, not stripped — easily making it the value leader in the 14-foot class. And just right for fleet owners, rental yards, and moderate-duty applications.



Exceed your expectations.



MODEL NO.

310SG

- >91 net hp
- >14-ft. 6-in. backhoe digging depth
18-ft. 5-in. with extendable dipperstick
- >10,210-lb. loader breakout force, 1.25-cu.-yd. bucket
- >15,955-lb. typical operating weight

A close-up photograph of the yellow backhoe loader's bucket and dipperstick. The bucket is filled with dark soil. The dipperstick is extended upwards. The background shows a construction site with rebar and concrete forms.

POWER
LIFT
310SG

Need a 14-foot backhoe for medium- to heavy-duty tasks? You've found it. In fact, many consider the 310SG the best all-around backhoe available. For good reason. Balance, feel, maneuverability, and muscle — this backhoe delivers it all. Offers an outstanding list of available options, too.



MODEL NO.

410G

- >96 net hp
- >15-ft.-10 in. backhoe digging depth
20-ft. with extendable dipperstick
- >10,210-lb. loader breakout force, 1.25-cu.-yd. bucket
- >18,500-lb. typical operating weight



A yellow Deere 410G backhoe loader is shown in a construction setting. The machine is positioned on a dirt surface, and its rear-mounted backhoe arm is extended, lifting a bucket full of dark soil. The operator's cab is visible on the left side of the frame. The background shows a partially constructed concrete structure. The overall scene is lit with a warm, golden light, suggesting either early morning or late afternoon.

**Mid-size,
big ability.**

Ever wonder why so many dirt contractors and road crews run 410Gs? Maybe it's the extra-strong digging and craning specs and high-production ability. Or the excavator-style hydraulic system that delivers superior metering and control. You'll just have to try one and find out for yourself.



Far more than just a big backhoe.

The 710G looks like a big backhoe — but works like something else. It digs deep, cranes heavy objects, and employs an ever-changing arsenal of attachments. Equipped with optional limited-slip front-wheel drive, it heaps the bucket with four-wheel-drive loader-like productivity. In fact, the top-of-the-line 710G does so much so well, it's like getting several machines for the price of one.



MODEL NO.

710G

- >122 net hp
- >17-ft. 10-in. backhoe digging depth
- 22-ft. 6-in. with extendable dipperstick
- >14,800-lb. loader breakout force, 1.87-cu.-yd. bucket
- >26,500-lb. typical operating weight





SUBJECT:

PRODUCTIVE

Wrap your eyes around a G-Series cab. Its spacious interior and unsurpassed visibility help an operator do his best.



Work circles around other backhoes.



Add a quick-coupler and attachments to either end and put more work within your grasp.



Curved knee provides exceptional reach, easily dumping to the center of most trucks.



Front-wheel drive delivers extra traction, letting you maneuver on marginal job-sites. Also helps heap the bucket.



Sure, most backhoes perform the same typical tasks. But when you want one that typically outperforms the others at most tasks, you'll choose a John Deere. To find out what a G-Series Backhoe can do for you, ask your dealer for a demo.



Extendable dipperstick adds digging depth, reach, and ability. Outer-box grasps objects between the bucket and exclusive gripper teeth, eliminating the need for an extra-cost thumb.



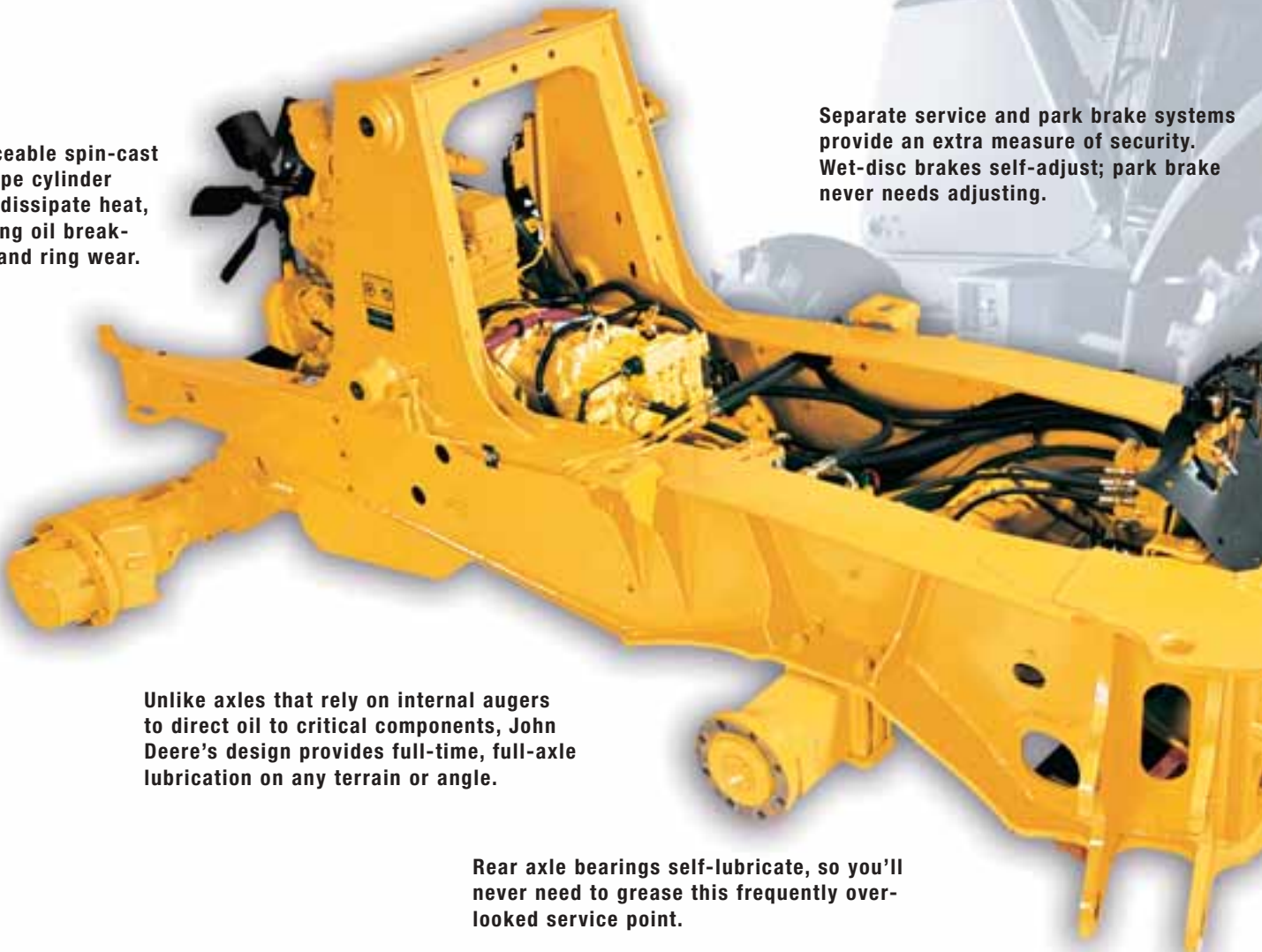
Your choice of pilot, two-lever, three-lever, four-lever, or SAE excavator-style controls delivers smooth, combined-function metering. For top productivity whether you're baling dirt or working around obstacles.



Craning heavy objects? These backhoes get it done with plenty of swing-torque and boom and dipperstick lift. Rearward-angled stabilizers and no-drift cylinders contribute rock-solid stability.



It takes guts to build a backhoe this good.



Replaceable spin-cast wet-type cylinder liners dissipate heat, reducing oil breakdown and ring wear.

Separate service and park brake systems provide an extra measure of security. Wet-disc brakes self-adjust; park brake never needs adjusting.

Unlike axles that rely on internal augers to direct oil to critical components, John Deere's design provides full-time, full-axle lubrication on any terrain or angle.

Rear axle bearings self-lubricate, so you'll never need to grease this frequently overlooked service point.



SUBJECT:

RELIABLE

Boom, dipperstick, stabilizers, and loader are box-constructed of low-alloy steel for maximum strength.



Planetary final drives distribute loads over three gears and are sealed in a cooling oil bath for long-life and trouble-free service.

Large pins and replaceable bushings help keep backhoe and loader structures tight and digging true.

Not all backhoes have what it takes to deliver a long-term commitment. Get to the heart of the matter and you'll discover the differences that keep the G-Series up and running — day after productive day. When you know how they're built, you'll run with a Deere.



Simpler to service, cheaper to keep.

Easy tilt hood. Same-side ground-level daily servicing. Extended service intervals. John Deere engineers sweat the small stuff so you'll spend less time and effort getting your backhoe ready for work. And more time getting work done.

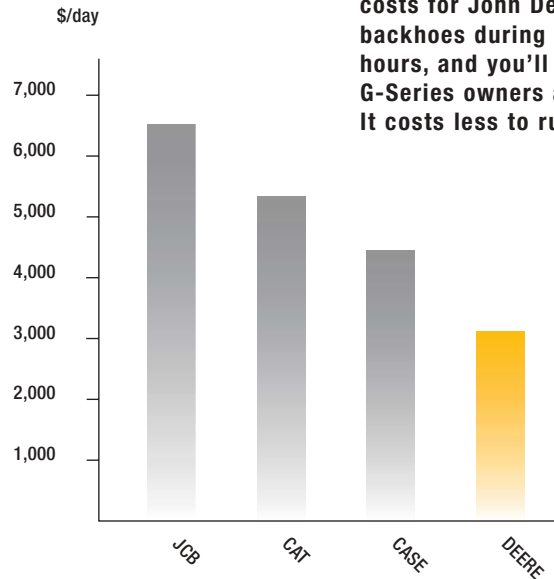


SUBJECT:

SERVICEABLE

No maintenance beats low maintenance every time. The G-Series have that covered, too, with self-adjusting serpentine belts, park brakes, and wet-disc brakes that seldom, if ever, require attention.

Compare routine maintenance costs for John Deere and other backhoes during their first 3,000 hours, and you'll discover what G-Series owners already know. It costs less to run a Deere.*



*310G and comparable models. Periodic maintenance costs over 3,000 hours. Service performed according to manufacturers' specs. Labor calculated @ \$50/hour.

- engine coolant reservoir
- air filter
- fuel filter
- engine oil fill
- transmission fluid dipstick/fill
- engine oil dipstick
- hydraulic fluid sight gauge
- remote front axle lube point
- fuel tank fill



Transmission/hydraulic coolers and a/c condenser swing out, simplifying radiator clean-out. Unlike some backhoes, no hose or fluid removal is necessary.



Split floor mats and large removable floor panel allow top-side access to the park brake and other internal components.



Periodic maintenance chart helps ensure that nothing gets overlooked. Grease chart is also nearby under the battery box cover.

310G 310SG



Engine

	310G	310SG
Type.....	John Deere 4045D, naturally aspirated standard / John Deere 4045T, turbocharged optional; certified to EPA Tier 2 emissions	John Deere 4045T, turbocharged; certified to EPA Tier 2 emissions
Net peak power (ISO9249)		
4045D.....	73 hp (54.5 kW) @ 2,000 rpm	N/A
4045T.....	78 hp (58.2 kW) @ 2,000 rpm	91 hp (67.8 kW) @ 2,000 rpm
Net peak torque (ISO9249)		
4045D.....	216 lb.-ft. (293 Nm) @ 1,000 rpm	N/A
4045T.....	250 lb.-ft. (339 Nm) @ 1,400 rpm	276 lb.-ft. (374 Nm) @ 1,400 rpm
Torque rise		
4045D.....	28 percent	N/A
4045T.....	30 percent	36 percent

Transmission

Four-speed, helical cut gear, collar-shift transmission synchronized in all gears with hydraulic reverser (optional full-power-shifted transmission on 310SG)				
Travel speeds with 19.5L-24 rear tires	Forward	Reverse	Forward	Reverse
Gear 1.....	3.6 mph (5.8 km/h)	4.0 mph (6.4 km/h)	3.6 mph (5.8 km/h)	4.0 mph (6.4 km/h)
Powershift.....			3.6 mph (5.8 km/h)	4.0 mph (6.4 km/h)
Gear 2.....	5.9 mph (9.5 km/h)	6.6 mph (10.6 km/h)	5.9 mph (9.5 km/h)	6.6 mph (10.6 km/h)
Powershift.....			5.8 mph (9.3 km/h)	6.7 mph (10.8 km/h)
Gear 3.....	13.9 mph (22.4 km/h)	13.9 mph (22.4 km/h)	13.9 mph (22.4 km/h)	13.9 mph (22.4 km/h)
Powershift.....			13.9 mph (22.4 km/h)	16.1 mph (25.9 km/h)
Gear 4.....	20.5 mph (33.0 km/h)	20.5 mph (33.0 km/h)	20.5 mph (33.0 km/h)	20.5 mph (33.0 km/h)
Powershift.....			20.5 mph (33.0 km/h)	N/A
Torque converter, single stage, dual phase with 2.63:1 stall ratio.....	11 in. (280 mm)		11 in. (280 mm)	

Capacities

Fuel tank (with ground level fueling).....	36 gal. (136 L)	36 gal. (136 L)
Hydraulic system.....	24 gal. (91 L)	24 gal. (91 L)
Engine coolant.....	17 qt. (16 L)	17 qt. (16 L)
Engine oil including filter.....	9 qt. (8.5 L) naturally aspirated or 13.7 qt. (13 L) turbocharged	13.7 qt. (13 L)
Torque converter and transmission.....	16 qt. (15 L)	16 qt. (15 L)
Rear axle.....	4.2 gal. (16 L)	4.2 gal. (16 L)
Mechanical-front-wheel-drive axle.....	2 gal. (7.6 L)	2 gal. (7.6 L)

Steering

Non-powered front axle (Carraro)		
Curb-turning radius with brakes.....	11 ft. 9 in. (3.57 m)	11 ft. 9 in. (3.57 m)
Without brakes.....	13 ft. 3 in. (4.04 m)	13 ft. 3 in. (4.04 m)
Bucket clearance circle with brakes.....	31 ft. 6 in. (9.61 m)	31 ft. 6 in. (9.61 m)
Without brakes.....	34 ft. 7 in. (10.55 m)	34 ft. 7 in. (10.55 m)
Steering wheel turns, lock to lock.....	3.1	3.1
Mechanical-front-wheel-drive axle		
Curb-turning radius with brakes.....	10 ft. 11 in. (3.34 m)	10 ft. 11 in. (3.34 m)
Without brakes.....	13 ft. 8 in. (4.17 m)	13 ft. 8 in. (4.17 m)
Bucket clearance circle with brakes.....	29 ft. 9 in. (9.07 m)	29 ft. 9 in. (9.07 m)
Without brakes.....	35 ft. 3 in. (10.74 m)	35 ft. 3 in. (10.74 m)
Steering wheel turns, lock to lock.....	2.9	2.9
Axle oscillations stop to stop, both axles.....	22 deg.	22 deg.

Axle Ratings

	Standard	Mechanical-front-wheel drive	Rear	Standard	Mechanical-front-wheel drive	Rear
Static.....	31,530 lb. (14 300 kg)	24,250 lb. (11 000 kg)	28,660 lb. (13 000 kg)	31,530 lb. (14 300 kg)	24,250 lb. (11 000 kg)	28,660 lb. (13 000 kg)
Dynamic.....	12,570 lb. (5700 kg)	9,260 lb. (4200 kg)	15,430 lb. (7000 kg)	12,570 lb. (5700 kg)	9,260 lb. (4200 kg)	15,430 lb. (7000 kg)
Ultimate.....	57,980 lb. (26 300 kg)	57,100 lb. (25 900 kg)	67,460 lb. (30 600 kg)	57,980 lb. (26 300 kg)	57,100 lb. (25 900 kg)	67,460 lb. (30 600 kg)

Hydraulic System**310G****310SG**

System	open center	open center
Pressure		
Backhoe.....	3,625 psi (25 000 kPa)	3,625 psi (25 000 kPa)
Loader	2,900 psi (20 000 kPa)	3,625 psi (25 000 kPa)
Flow @ 2,200 rpm.....	28 gpm (106 L/min.)	36.6 gpm (139 L/min.)
Backhoe.....	28 gpm (106 L/min.)	36.6 gpm (139 L/min.)
Loader	28 gpm (106 L/min.)	28 gpm (106 L/min.)

SAE Operating Weights

Standard.....	12,800 lb. (5806 kg)	13,500 lb. (6124 kg)
Cab adds	580 lb. (263 kg)	580 lb. (263 kg)
Mechanical-front-wheel-drive with tires adds	370 lb. (168 kg)	485 lb. (220 kg)
Extendable dipperstick excluding required counterweight adds	440 lb. (200 kg)	490 lb. (222 kg)
Typical operating weight with cab, mechanical-front-wheel drive with tires, and extendable dipperstick		
Counterweights (2) equaling 900 lb. (408 kg).....	15,090 lb. (6845 kg)	15,955 lb. (7237 kg)
Backhoe bucket coupler adds	130 lb. (59 kg)	138 lb. (63 kg)
Front loader coupler adds	630 lb. (286 kg)	630 lb. (286 kg)

Cylinders

	<i>Bore</i>	<i>Stroke</i>	<i>Rod</i>	<i>Bore</i>	<i>Stroke</i>	<i>Rod</i>
Loader boom (2)	3.15 in. (80 mm)	31.1 in. (790 mm)	1.97 in. (50 mm)	3.15 in. (80 mm)	31.1 in. (790 mm)	1.97 in. (50 mm)
Loader bucket (1).....	3.54 in. (90 mm)	29.29 in. (744 mm)	1.97 in. (50 mm)	3.54 in. (90 mm)	29.29 in. (744 mm)	1.97 in. (50 mm)
Backhoe boom (1).....	4.33 in. (110 mm)	32.32 in. (821 mm)	2.20 in. (56 mm)	4.72 in. (120 mm)	31.3 in. (795 mm)	2.20 in. (56 mm)
Backhoe crowd (1).....	4.33 in. (110 mm)	21.77 in. (552.9 mm)	2.48 in. (63 mm)	4.53 in. (115 mm)	23.74 in. (603 mm)	2.48 in. (63 mm)
Backhoe bucket (1).....	3.15 in. (80 mm)	35.1 in. (891.5 mm)	1.97 in. (50 mm)	3.54 in. (90 mm)	31.9 in. (810 mm)	2.20 in. (56 mm)
Backhoe swing (2)	3.15 in. (80 mm)	12.2 in. (310 mm)	1.77 in. (45 mm)	3.54 in. (90 mm)	10.9 in. (278 mm)	1.97 in. (50 mm)
Backhoe extendable dipperstick (1)	2.48 in. (63 mm)	41.81 in. (1062 mm)	1.26 in. (32 mm)	2.76 in. (70 mm)	41.81 in. (1062 mm)	1.57 in. (40 mm)
Backhoe stabilizer (2).....	3.15 in. (80 mm)	19.69 in. (500 mm)	1.97 in. (50 mm)	3.94 in. (100 mm)	19.69 in. (500 mm)	1.97 in. (50 mm)
Steering						
Non-powered axle (1).....	2.56 in. (65 mm)	8.39 in. (213 mm)	1.42 in. (36 mm)	2.56 in. (65 mm)	8.39 in. (213 mm)	1.42 in. (36 mm)
Mechanical-front-wheel drive (1).....	2.56 in. (65 mm)	8.27 in. (210 mm)	1.50 in. (38 mm)	2.56 in. (65 mm)	8.27 in. (210 mm)	1.50 in. (38 mm)

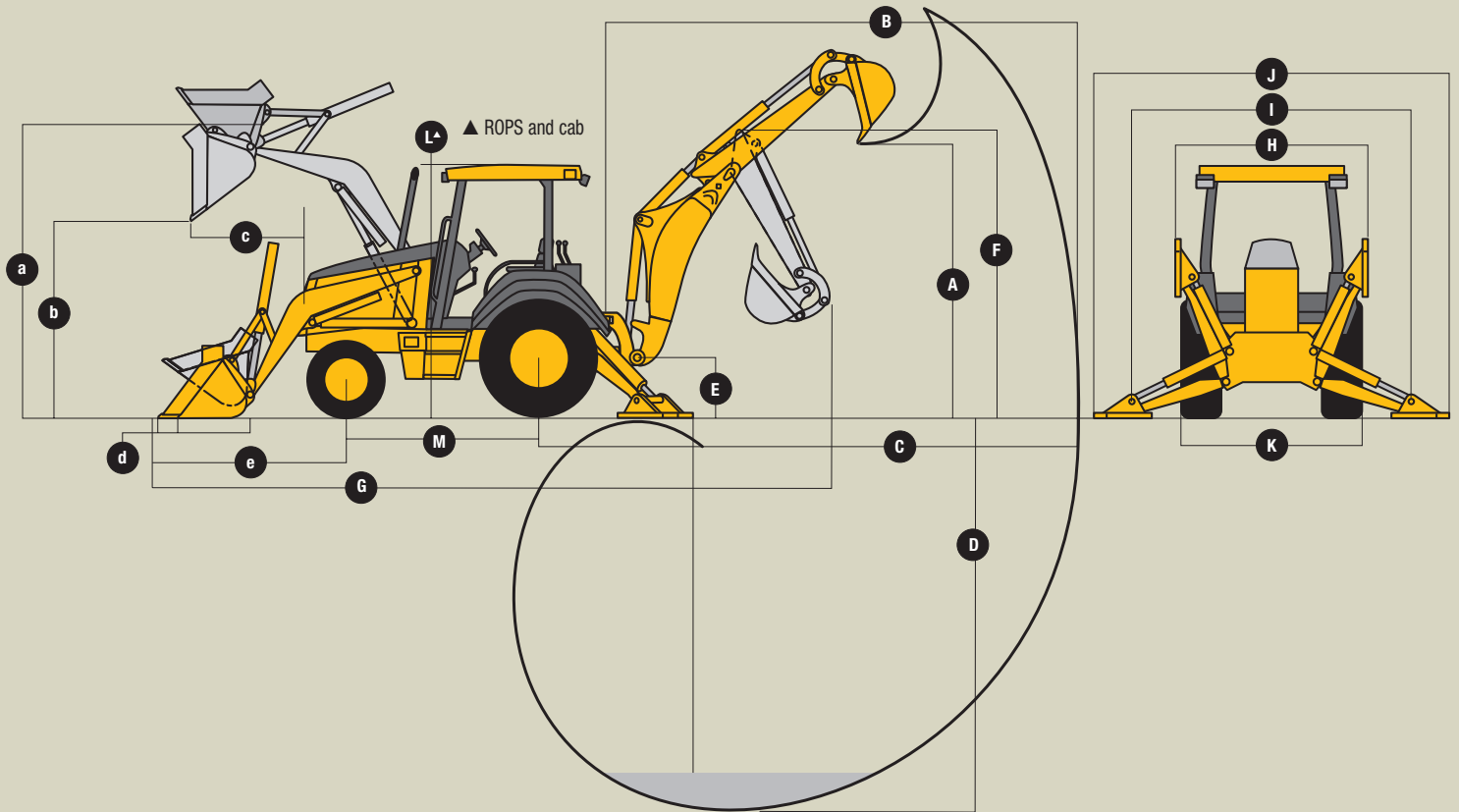
Backhoe Performance

Bucket range	12–30 in. (305–762 mm)	12–36 in. (305–914 mm)
With standard backhoe		
Digging force, bucket cylinder.....	11,106 lb. (49.4 kN)	11,990 lb. (53.3 kN)
With heavy-duty cylinder option.....		15,236 lb. (67.7 kN)
Digging force, crowd cylinder.....	7,006 lb. (31.2 kN)	8,090 lb. (36.0 kN)
Bucket rotation	190 degrees	190 degrees

Loader Performance

Bucket range	1.00–1.25 cu. yd. (0.76–0.96 m ³)	1.18–1.32 cu. yd. (0.91–1.01 m ³)
	<i>1.00-cu. yd. (0.76 m³)</i>	<i>1.25-cu. yd. (0.96 m³)</i>
	<i>Heavy-Duty Long Lip</i>	<i>Heavy-Duty Long Lip</i>
Breakout force	8,500 lb. (38.0 kN)	10,210 lb. (45.4 kN)
Lifting capacity, full height	6,200 lb. (2812 kg)	7,340 lb. (3332 kg)

310G/310SG Backhoe Loaders



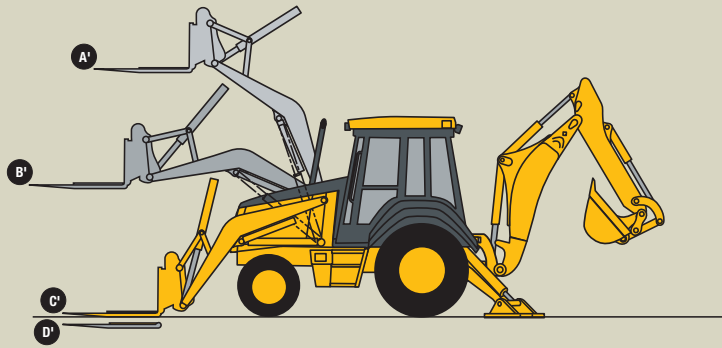
Backhoe Dimensions

	310G		310SG	
	<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick Extended*</i>	<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick Extended*</i>
A Loading height, truck loading position.....	10 ft. 11 in. (3.33 m)	13 ft. 11 in. (4.24 m)	11 ft. 3 in. (3.43 m)	14 ft. 1 in. (4.29 m)
B Reach from center of swing pivot	17 ft. 10 in. (5.44 m)	21 ft. 5 in. (6.53 m)	18 ft. 3 in. (5.56 m)	21 ft. 11 in. (6.68 m)
C Reach from center of rear axle.....	21 ft. 4 in. (6.50 m)	24 ft. 11 in. (7.59 m)	21 ft. 9 in. (6.63 m)	25 ft. 4 in. (7.72 m)
D Maximum digging depth	14 ft. 3 in. (4.34 m)	17 ft. 11 in. (5.46 m)	14 ft. 6 in. (4.42 m)	18 ft. 5 in. (5.61 m)
E Ground clearance, minimum	12 in. (305 mm)	12 in. (305 mm)	13 in. (330 mm)	13 in. (330 mm)
F Transport height.....	11 ft. 3 in. (3.43 m)	11 ft. 2 in. (3.40 m)	11 ft. 6 in. (3.51 m)	11 ft. 5 in. (3.48 m)
G Overall length, transport.....	23 ft. 3 in. (7.09 m)	23 ft. 3 in. (7.09 m)	23 ft. 6 in. (7.16 m)	23 ft. 6 in. (7.16 m)
H Stabilizer width – transport with ROPS.....	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)
I Stabilizer spread – operating	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
J Stabilizer overall width – operating.....	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)
K Width over tires.....	82.9 in. (2.11 m)	82.9 in. (2.11 m)	84.6 in. (2.18 m)	84.6 in. (2.18 m)
L Height to tops of ROPS.....	9 ft. (2.74 m)	9 ft. (2.74 m)	9 ft. 2 in. (2.79 m)	9 ft. 2 in. (2.79 m)
M Length from axle to axle	82.7 in. (2100 mm)	82.7 in. (2100 mm)	82.7 in. (2100 mm)	82.7 in. (2100 mm)

*Backhoe specifications are with 24-in. x 6.5-cu. ft. (610 mm x 0.18 m³) bucket for the 310G and with 24-in. x 7.5-cu. ft. (610 mm x 0.21 m³) bucket for the 310SG.

Loader Dimensions

a Height to bucket hinge pin, maximum.....	11 ft. 1 in. (3.38 m)	11 ft. 2 in. (3.40 m)
b Dump clearance, bucket at 45 degrees.....	8 ft. 10 in. (2.69 m)	8 ft. 2 in. (2.59 m)
c Reach at full height, bucket at 45 degrees.....	30.9 in. (785 mm)	36.0 in. (911 mm)
d Digging depth below ground, bucket level.....	6.3 in. (160 mm)	5.8 in. (147 mm)
e Length from front axle centerline to bucket cutting edge.....	80 in. (2030 mm)	80 in. (2030 mm)
Raising time to full height	4.9 sec.	5.5 sec.
Bucket dump time at maximum height	1.3 sec.	1.2 sec.
Bucket lowering time (power down).....	2.5 sec.	2.2 sec.



Lift Capacity with Quick-Coupler/Forks

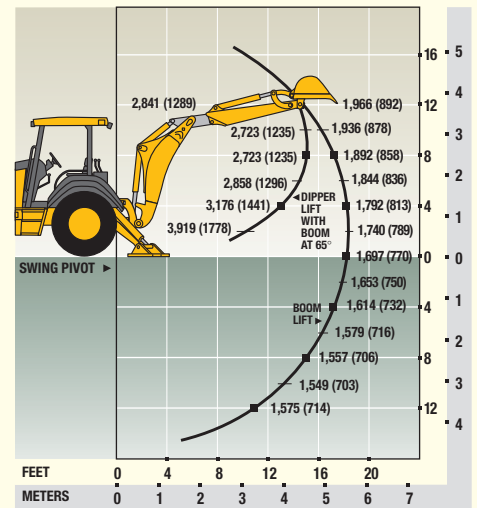
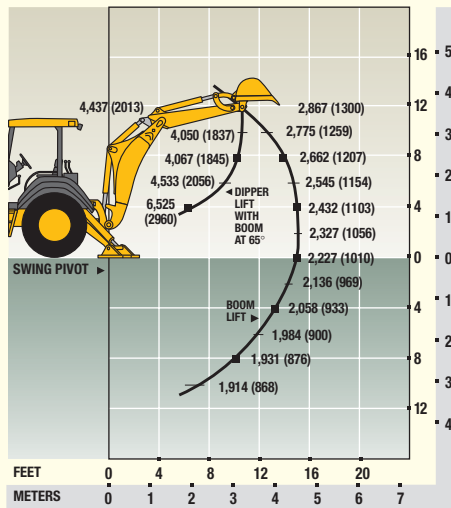
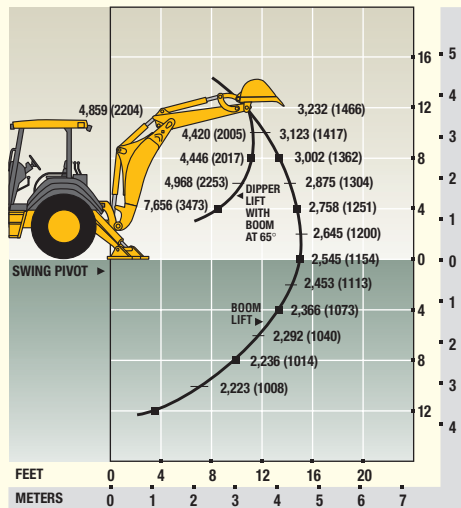
A' Maximum height.....	3,379 lb. (1532 kg)	4,570 lb. (2073 kg)
B' Maximum reach.....	5,235 lb. (2374 kg)	6,971 lb. (3162 kg)
C' At ground line.....	6,825 lb. (3095 kg)	9,138 lb. (4145 kg)
D' Below ground line.....	10.3 in. (261.6 mm)	8.3 in. (210.8 mm)

Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

310G BACKHOE WITH STANDARD DIPPERSTICK

310G BACKHOE WITH 3-FT. 6-IN. (1.07 M) EXTENDABLE DIPPERSTICK, RETRACTED

310G BACKHOE WITH 3-FT. 6-IN. (1.07 M) EXTENDABLE DIPPERSTICK, EXTENDED

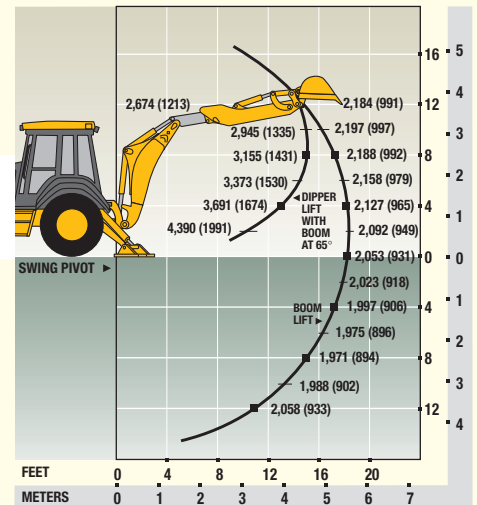
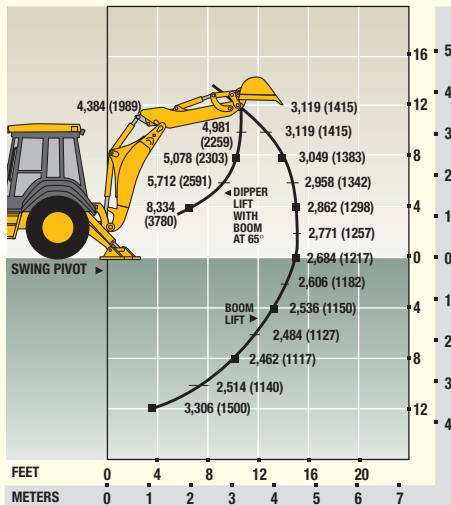
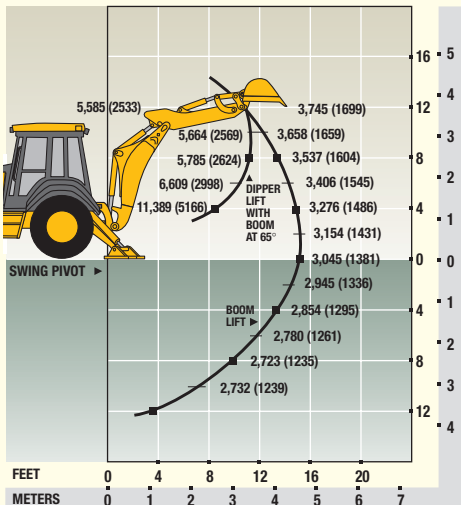


Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

310SG BACKHOE WITH STANDARD DIPPERSTICK

310SG BACKHOE WITH 3-FT. 6-IN. (1.07 M) EXTENDABLE DIPPERSTICK, RETRACTED

310SG BACKHOE WITH 3-FT. 6-IN. (1.07 M) EXTENDABLE DIPPERSTICK, EXTENDED



For more detailed spec information and available options, log on to www.deere.com.

410G 710G

BACKHOE LOADERS

SPECIFICATIONS



Engine

410G

Type.....	John Deere 4045T, turbocharged; certified to EPA Tier 2 emissions
Net peak power (ISO9249).....	96 hp (71.3 kW) @ 2,100 rpm
Net peak torque (ISO9249).....	279 lb.-ft. (378 Nm) @ 1,400 rpm
Torque rise.....	23 percent

710G

Type.....	John Deere 6068T, turbocharged; certified to EPA Tier 2 emissions
Net peak power (ISO9249).....	122 hp (91 kW) @ 2,000 rpm
Net peak torque (ISO9249).....	397 lb.-ft. (538 Nm) @ 1,300 rpm
Torque rise.....	33 percent

Transmission

Four-speed, helical cut gear, full power-shifted transmission with hydraulic reverser

Travel speeds*	410G		710G	
	Forward	Reverse	Forward	Reverse
Gear 1.....	3.6 mph (5.8 km/h)	4.0 mph (6.4 km/h)	3.8 mph (6.2 km/h)	4.0 mph (6.4 km/h)
Gear 2.....	5.9 mph (9.5 km/h)	6.6 mph (10.6 km/h)	6.4 mph (10.3 km/h)	6.6 mph (10.6 km/h)
Gear 3.....	13.9 mph (22.4 km/h)	16.1 mph (25.9 km/h)	15.3 mph (24.7 km/h)	16.1 mph (25.9 km/h)
Gear 4.....	20.5 mph (33.0 km/h)		23.0 mph (37.1 km/h)	

Torque converter, single stage, dual phase with

2.63:1 stall ratio	11 in. (280 mm)	11 in. (280 mm)
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*410G with 19.5L-24 rear tires; 710G with 21L-28 rear and 14.5/75-16.1 front tires.

Capacities

Fuel tank (with ground level fueling)	36 gal. (136 L)	69 gal. (261 L)
Hydraulic system	26 gal. (98 L)	42 gal. (159 L)
Engine coolant	17 qt. (16 L)	28.5 qt. (27 L)
Engine oil including filter	13.7 qt. (13 L)	20 qt. (19 L)
Torque converter and transmission	16 qt. (15 L)	16 qt. (15 L)
Rear axle	4.2 gal. (16 L)	4.2 gal. (16 L)
Mechanical-front-wheel-drive axle.....	2 gal. (7.6 L)	2.8 gal. (10.6 L)

Steering

Non-powered front axle (Carraro)

Curb-turning radius with brakes.....	11 ft. 8 in. (3.56 m)	10 ft. 7 in. (3.23 m)
Without brakes.....	13 ft. 3 in. (4.04 m)	14 ft. 11 in. (4.55 m)
Bucket clearance circle with brakes.....	31 ft. 8 in. (9.65 m)	35 ft. 5 in. (10.8 m)
Without brakes.....	34 ft. 9 in. (10.59 m)	40 ft. 0 in. (12.2 m)
Steering wheel turns, lock to lock	3.3	2.8

Mechanical-front-wheel-drive axle

Curb-turning radius with brakes.....	11 ft. 5 in. (3.48 m)	13 ft. 0 in. (3.96 m)
Without brakes.....	13 ft. 6 in. (4.11 m)	15 ft. 4 in. (4.67 m)
Bucket clearance circle with brakes.....	29 ft. 7 in. (9.02 m)	35 ft. 5 in. (10.80 m)
Without brakes.....	33 ft. 8 in. (10.26 m)	40 ft. 0 in. (12.20 m)
Steering wheel turns, lock to lock	2.2	2.7

Axle oscillations stop to stop, both axles

22 deg.

Axle Ratings

	Mechanical-front-wheel drive			Mechanical-front-wheel drive		
	Standard	Rear		Standard	Rear	
Static	39,680 lb. (18 000 kg)	26,460 lb. (12 000 kg)	28,660 lb. (13 000 kg)	50,600 lb. (22 950 kg)	40,790 lb. (18 500 kg)	43,430 lb. (19 700 kg)
Dynamic	15,870 lb. (7200 kg)	12,790 lb. (5800 kg)	15,430 lb. (7000 kg)	20,280 lb. (9200 kg)	16,980 lb. (7700 kg)	21,610 lb. (9800 kg)
Ultimate	72,640 lb. (32 950 kg)	62,170 lb. (28 200 kg)	67,461 lb. (30 600 kg)	90,340 lb. (41 000 kg)	96,120 lb. (43 600 kg)	102,290 lb. (46 400 kg)

Hydraulic System**410G****710G**

System	pressure compensated load sensing (PCLS)	pressure compensated load sensing (PCLS)
Pressure		
Backhoe.....	3,625 psi (25 000 kPa)	3,625 psi (25 000 kPa)
Loader	3,625 psi (25 000 kPa)	3,625 psi (25 000 kPa)
Flow @ 2,200 rpm.....	43 gpm (163 L/min.)	52 gpm (197 L/min.)
Backhoe.....	43 gpm (163 L/min.)	52 gpm (197 L/min.)
Loader	43 gpm (163 L/min.)	52 gpm (197 L/min.)

SAE Operating Weights

Standard.....	15,000 lb. (6804 kg)	23,000 lb. (10 430 kg)
Cab adds	580 lb. (263 kg)	645 lb. (293 kg)
Mechanical-front-wheel-drive with tires adds	485 lb. (220 kg)	822 lb. (373 kg)
Extendable dipperstick excluding required counterweight adds	638 lb. (289 kg)	700 lb. (318 kg)
Typical operating weight with cab, mechanical-front-wheel drive with tires, and extendable dipperstick		
Counterweights (4) equaling 1,262 lb. (572 kg)	18,500 lb. (8392 kg)	N/A
Counterweights (2) equaling 1,628 lb. (738 kg)		26,500 lb. (12 020 kg)
Backhoe bucket coupler adds	138 lb. (63 kg)	660 lb. (299 kg)
Front loader coupler adds	630 lb. (286 kg)	800 lb. (363 kg)

Cylinders

	<i>Bore</i>	<i>Stroke</i>	<i>Rod</i>	<i>Bore</i>	<i>Stroke</i>	<i>Rod</i>
Loader boom (2)	3.15 in. (80 mm)	31.1 in. (790 mm)	1.97 in. (50 mm)	3.94 in. (100 mm)	31.99 in. (812.5 mm)	2.20 in. (56 mm)
Loader bucket (1).....	3.54 in. (90 mm)	29.29 in. (744 mm)	1.97 in. (50 mm)	4.33 in. (110 mm)	26.44 in. (671.5 mm)	2.20 in. (56 mm)
Backhoe boom (1).....	4.92 in. (125 mm)	35.5 in. (901.8 mm)	2.48 in. (63 mm)	6.30 in. (160 mm)	37.15 in. (943.5 mm)	3.74 in. (95 mm)
Backhoe crowd (1).....	4.53 in. (115 mm)	27.49 in. (698.2 mm)	2.48 in. (63 mm)	5.51 in. (140 mm)	31.16 in. (791.5 mm)	3.35 in. (85 mm)
Backhoe bucket (1).....	3.94 in. (100 mm)	31.89 in. (810 mm)	2.48 in. (63 mm)	4.33 in. (110 mm)	37.09 in. (942 mm)	2.76 in. (70 mm)
Backhoe swing (2).....	3.54 in. (90 mm)	10.94 in. (278 mm)	1.97 in. (50 mm)	4.33 in. (110 mm)	12.13 in. (308 mm)	2.20 in. (56 mm)
Backhoe extendable dipperstick (1)	2.76 in. (70 mm)	47.78 in. (1213.5 mm)	1.57 in. (40 mm)	3.15 in. (80 mm)	54.00 in. (1371.5 mm)	1.77 in. (45 mm)
Backhoe stabilizer (2).....	3.94 in. (100 mm)	19.69 in. (500 mm)	1.97 in. (50 mm)	4.53 in. (115 mm)	23.15 in. (588 mm)	2.48 in. (63 mm)
Steering						
Non-powered axle (1).....	2.76 in. (70 mm)	8.39 in. (213 mm)	1.57 in. (40 mm)	2.95 in. (75 mm)	9.06 in. (230 mm)	1.77 in. (45 mm)
Mechanical-front-wheel drive (1)	2.48 in. (63 mm)	8.27 in. (210 mm)	1.65 in. (42 mm)	2.95 in. (75 mm)	10.24 in. (260 mm)	1.97 in. (50 mm)

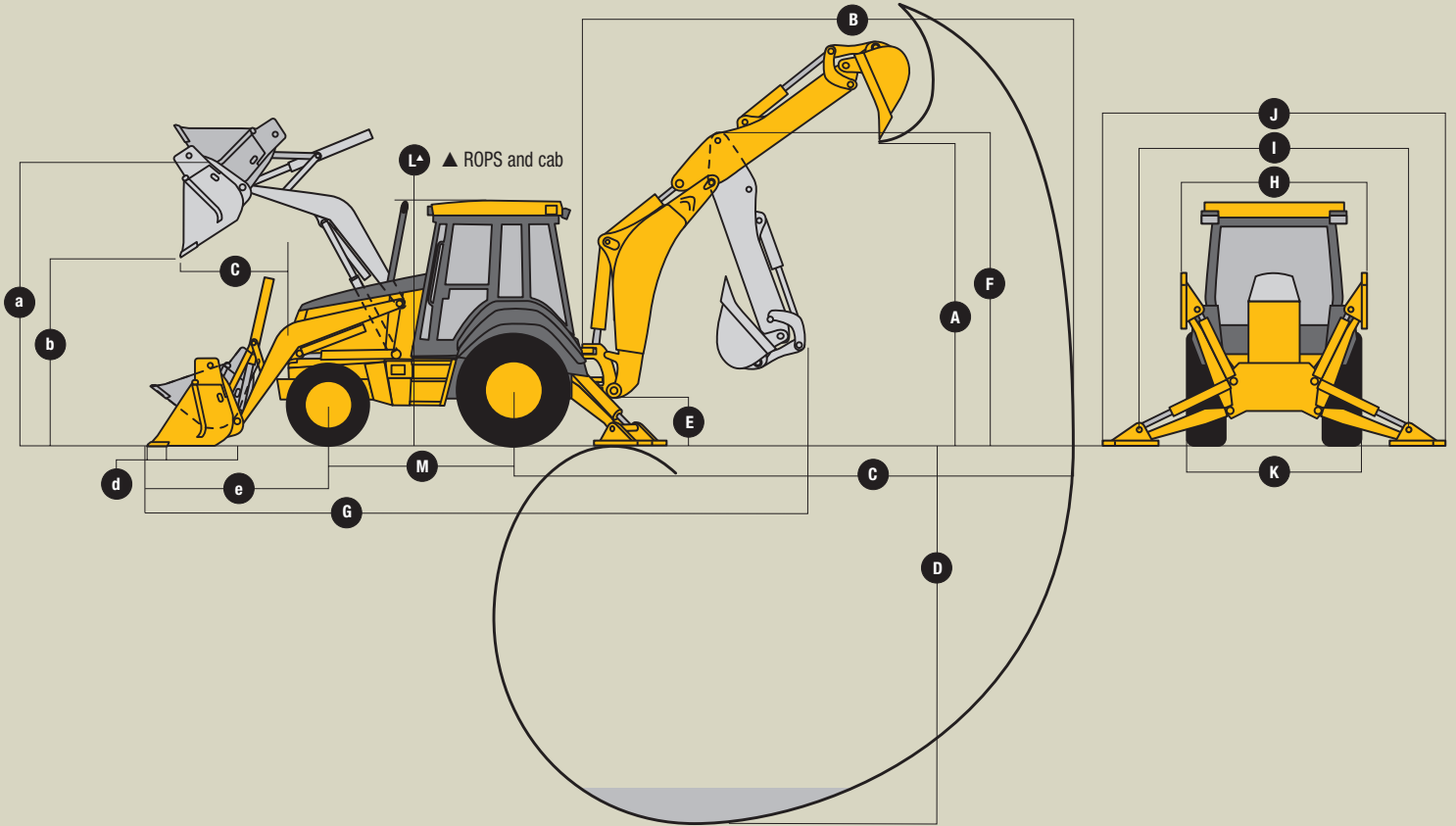
Backhoe Performance

Bucket range	12–36 in. (305–914 mm)	18–36 in. (457–914 mm)
With standard backhoe		
Digging force, bucket cylinder	14,801 lb. (65.8 kN)	17,000 lb. (75.6 kN)
Digging force, crowd cylinder.....	8,741 lb. (38.9 kN)	11,750 lb. (52.3 kN)
Bucket rotation	190 degrees	190 degrees

Loader Performance

Range	1.25–1.50 cu. yd. (0.96–1.15 m ³)	1.375–1.87 cu. yd. (1.00–1.43 m ³)
	<i>1.25-cu. yd. (0.96 m³)</i>	<i>1.87-cu. yd. (1.34 m³)</i>
	<i>Heavy-Duty Long Lip</i>	<i>Standard-Duty and MFWD</i>
Breakout force	10,210 lb. (45.4 kN)	14,800 lb. (66.0 kN)
Lifting capacity, full height	7,340 lb. (3332 kg)	8,693 lb. (3943 kg)

410G/710G Backhoe Loaders



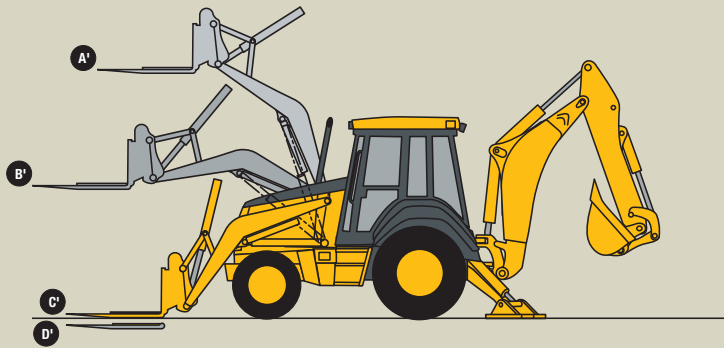
Backhoe Dimensions

	410G		710G	
	<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick Extended*</i>	<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick Extended*</i>
A Loading height, truck loading position.....	12 ft. 6 in. (3.81 m)	15 ft. 6 in. (4.72 m)	14 ft. 3 in. (4.34 m)	16 ft. (4.88 m)
B Reach from center of swing pivot	19 ft. 8 in. (5.99 m)	23 ft. 8 in. (7.21 m)	22 ft. 6 in. (6.86 m)	26 ft. 8 in. (8.13 m)
C Reach from center of rear axle.....	23 ft. 4 in. (7.11 m)	27 ft. 4 in. (8.33 m)	26 ft. 8 in. (8.13 m)	30 ft. 10 in. (9.40 m)
D Maximum digging depth	15 ft. 10 in. (4.83 m)	20 ft. (6.10 m)	17 ft. 10 in. (5.44 m)	22 ft. 6 in. (6.86 m)
E Ground clearance, minimum	14 in. (356 mm)	14 in. (356 mm)	14 in. (356 mm)	14 in. (356 mm)
F Transport height.....	12 ft. 11 in. (3.94 m)	12 ft. 10 in. (3.91 m)	13 ft. 8 in. (4.17 m)	13 ft. 10 in. (4.22 m)
G Overall length, transport.....	23 ft. 11 in. (7.29 m)	23 ft. 11 in. (7.29 m)	26 ft. 9 in. (8.15 m)	26 ft. 9 in. (8.15 m)
H Stabilizer width – transport with ROPS.....	7 ft. 6 in. (2.30 m)	7 ft. 6 in. (2.30 m)	7 ft. 11 in. (2.41 m)	7 ft. 11 in. (2.41 m)
I Stabilizer spread – operating	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)	13 ft. 1 in. (3.99 m)	13 ft. 1 in. (3.99 m)
J Stabilizer overall width.....	13 ft. 3 in. (4.03 m)	13 ft. 3 in. (4.03 m)	15 ft. 3 in. (4.65 m)	15 ft. 3 in. (4.65 m)
K Width over tires.....	84.6 in. (2.18 m)	84.6 in. (2.18 m)	93.8 in. (2.38 m)	93.8 in. (2.38 m)
L Height to tops of ROPS.....	9 ft. 3 in. (2.82 m)	9 ft. 3 in. (2.82 m)	9 ft. 9 in. (2.97 m)	9 ft. 9 in. (2.97 m)
M Length from axle to axle	82.7 in. (2100 mm)	82.7 in. (2100 mm)	98.9 in. (2511 mm)	98.9 in. (2511 mm)

*Backhoe specifications are with 24-in. x 7.5-cu. ft. (610 mm x 0.21 m³) bucket for the 410G and with 24-in. x 11.0-cu. ft. (610 mm x 0.31 m³) bucket for the 710G.

Loader Dimensions

a Height to bucket hinge pin, maximum.....	11 ft. (3.35 m)	12 ft. 5 in. (3.78 m)
b Dump clearance, bucket at 45 degrees.....	8 ft. 4 in. (2.49 m)	9 ft. 4 in. (2.84 m)
c Reach at full height, bucket at 45 degrees.....	35.5 in. (902 mm)	30.3 in. (770 mm)
d Digging depth below ground, bucket level.....	4.2 in. (107 mm)	4.1 in. (104 mm)
e Distance from front axle centerline to bucket cutting edge.....	82.6 in. (2097 mm)	86.5 in. (2198 mm)
Raising time to full height	4.6 sec.	4.8 sec.
Bucket dump time at maximum height	1.4 sec.	1.3 sec.
Bucket lowering time (power down).....	2.4 sec.	3.1 sec.

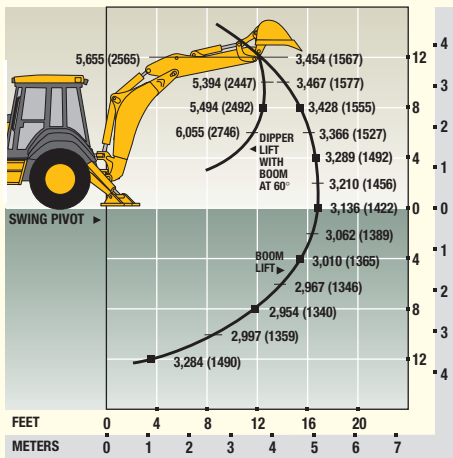


Lift Capacity with Quick-Coupler/Forks

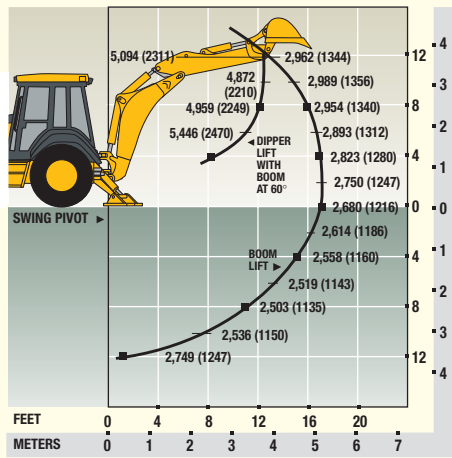
A' Maximum height.....	4,570 lb. (2073 kg)	5,803 lb. (2632 kg)
B' Maximum reach.....	6,971 lb. (3162 kg)	9,651 lb. (4378 kg)
C' At ground line.....	9,138 lb. (4145 kg)	13,353 lb. (6057 kg)
D' Below ground line.....	8.3 in. (210.8 mm)	5.5 in. (140 mm)

Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

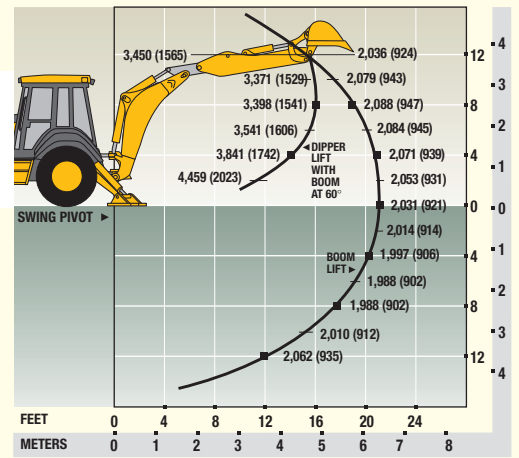
410G BACKHOE WITH STANDARD DIPPERSTICK



410G BACKHOE WITH 4-FT. (1.22 M) EXTENDABLE DIPPERSTICK, RETRACTED

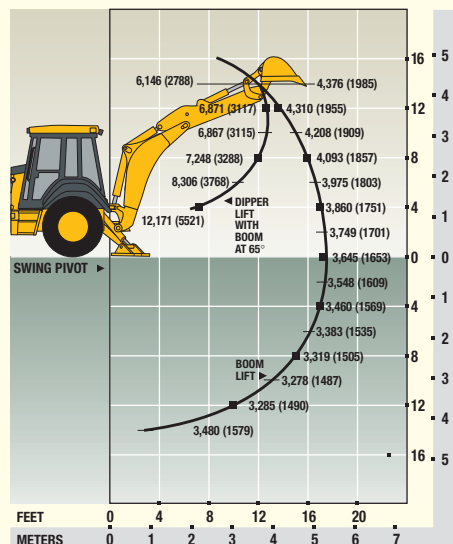


410G BACKHOE WITH 4-FT. (1.22 M) EXTENDABLE DIPPERSTICK, EXTENDED

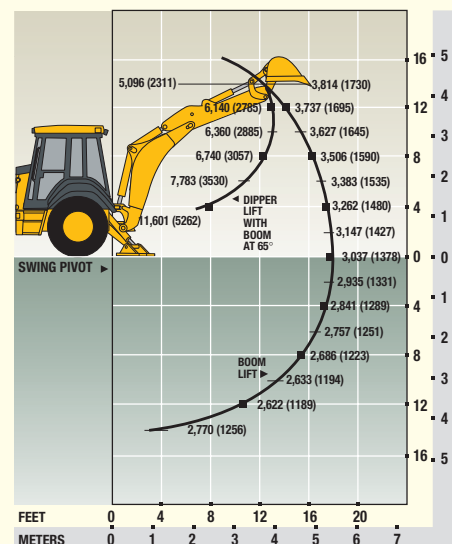


Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

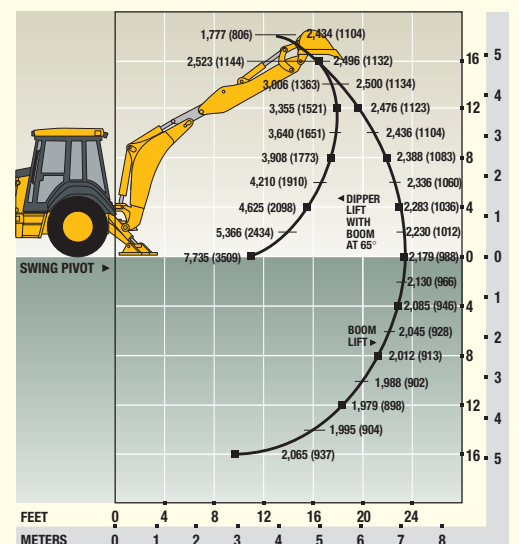
710G BACKHOE WITH STANDARD DIPPERSTICK



710G BACKHOE WITH 4-FT. 6-IN. (1.37 M) EXTENDABLE DIPPERSTICK, RETRACTED



710G BACKHOE WITH 4-FT. 6-IN. (1.37 M) EXTENDABLE DIPPERSTICK, EXTENDED



For more detailed spec information and available options, log on to www.deere.com.

310G / 310SG / 410G / 710G Backhoe Loaders

Key: ● Standard equipment ▲ Optional or special equipment

*See your John Deere dealer for further information.

Engine

- Certified to EPA Tier 2 emissions
- John Deere Model 4045D – 4.5 liter, 73 hp (54.5 kW) naturally aspirated, isolation mounted
- ▲ John Deere Model 4045T – 4.5 liter, 78 hp (58.2 kW) turbocharged, isolation mounted
- John Deere Model 4045T – 4.5 liter, 91 hp (67.8 kW) turbocharged, isolation mounted
- John Deere Model 4045T – 4.5 liter, 96 hp (71.3 kW) turbocharged, isolation mounted
- John Deere Model 6068T – 6.8 liter, 122 hp (91 kW) turbocharged, isolation mounted
- Vertical spin-on engine oil filter
- Vertical spin-on fuel filter with water separator
- ▲ Vertical spin-on secondary fuel filter
- Oil-to-water engine oil cooler
- Antifreeze, -34°F (-37°C)
- Coolant recovery tank
- Serpentine belt with automatic belt tensioner
- Suction-type cooling fan
- Enclosed safety fan guard
- ▲ High ambient temperature engine cooling
- Dual-element dry-type air cleaner with evacuator valve and prescreener
- Muffler, underhood with curved-end exhaust stack
- ▲ Chrome exhaust extension
- ▲ Electric ether starting aid
- ▲ Engine coolant heater, 1,000 watts

Powertrain

- ▲ Collar-shift transmission with torque converter: Fully synchronized four forward, four reverse speeds / Isolation mounted to mainframe
- Powershift transmission: Torque converter with electrically actuated twist grip F-N-R in 1st through 4th gears
- Transmission oil cooler
- Vertical spin-on transmission filter
- Electric forward-neutral-reverse control lever with neutral start interlock
- Electric clutch cutoff on gearshift and loader levers
- Differential lock, electric foot-actuated
- Planetary final drives
- Power-assisted hydraulic service brakes (conform to SAE J1473): Inboard, wet multi-disc, self adjusting and self equalizing
- Parking/emergency brake with electric switch control (conforms to SAE J1473): Spring applied, hydraulically released wet multi-disc / Independent of service brakes
- Hydrostatic power steering with emergency manual mode
- Non-powered front axle
- ▲ Mechanical-front-wheel-drive: Electric on/off control / Drive-shaft guard / Sealed axle
- Mechanical-front-wheel-drive with limited-slip differential: Electric on/off control / Drive-shaft guard / Sealed axle
- 11L-15 F3 front tires
- ▲ 11L-16 F3 front tires
- ▲ 12-16.5 traction front tires
- ▲ 12.5/80-18 traction front tires
- ▲ 14.5/75-16.1 F3 front tires
- 16.9-24 R4 rear tires
- ▲ 19.5L-24 R4 rear tires
- ▲ 21L-24 R4 rear tires
- 15-19.5 SS-1 front tires
- ▲ 16.5L-16.1 L-1 front tires
- 21L-28 R4 rear tires
- ▲ 20.5-25 L-2 rear tires
- ▲ Rear wheel spacers for use with chains

Backhoe

- Backhoe with standard dipperstick, 14-ft. 3-in. digging depth
- Backhoe with standard dipperstick, 14-ft. 6-in. digging depth
- Backhoe with standard dipperstick, 15-ft. 10-in. digging depth
- Backhoe with standard dipperstick, 18-ft. 2-in. digging depth

Backhoe (continued)

- Two-lever (Deere) backhoe controls
- ▲ Two-lever pilot controls with pattern-selection feature
- ▲ Three-lever (Case) backhoe controls
- ▲ Four-lever (Ford) backhoe controls
- ▲ SAE excavator two-lever backhoe controls
- Backhoe transport lock lever
- Swing lock pin stored in operator's station
- Stabilizer valve with two-direction anti-drift valves
- Pivoting stabilizers with reversible pads
- ▲ Extended stabilizers*
- ▲ Shortened stabilizers
- ▲ Stabilizer cylinder guards
- Less bucket, with bucket pins
- ▲ Standard-duty backhoe bucket with lift loops
- ▲ Heavy-duty backhoe bucket with lift loops
- ▲ Severe-duty backhoe bucket with lift loops
- ▲ Backhoe coupler for "C," "D," "E," and "G" Series John Deere buckets, Case buckets, and Cat buckets
- ▲ Extendable dipperstick, 3-ft. 6-in. extension
- ▲ Extendable dipperstick, 4-ft. extension
- ▲ Extendable dipperstick, 5-ft. extension
- ▲ Auxiliary backhoe valve for swingers, thumbs, etc.
- ▲ Auxiliary backhoe valve for hammers, compactors
- ▲ Auxiliary backhoe plumbing for hammers, compactors
- ▲ Auxiliary backhoe plumbing for swingers, thumbs, etc.
- ▲ SAE-controlled load-lowering device valves

Loader

- Hydraulic self leveling
- Return-to-dig feature
- Single-level control with electric clutch cutoff switch
- Bucket-level indicator
- Loader boom service lock
- ▲ Ride control
- ▲ Auxiliary loader hydraulics with two-lever control
- ▲ Hydraulic coupler for buckets, forks, etc.
- ▲ Loader front coupler*
- Less bucket, with bucket pins
- ▲ Heavy-duty loader bucket with lift loops, pre-punched for bolt-on cutting edge
- ▲ Heavy-duty loader buckets with bolt-on cutting edges, skid plates, and lift loops
- ▲ Multipurpose loader buckets with bolt-on cutting edges, skid plates, and lift loops

Hydraulic System

- 28-gpm (106 L/min.) gear pump, open-center system
- 37-gpm (140 L/min.) tandem gear pump, open-center system
- 43-gpm (163 L/min.) axial piston pump, PCLS system
- 52-gpm (197 L/min.) axial piston pump, PCLS system
- Independent hydraulic reservoir
- Swing-down hydraulic oil cooler
- "O"-ring face seal connectors
- 6-micron vertical spin-on filter

Electrical

- 12-volt system
- 70-amp alternator
- 90-amp alternator
- Single battery with 190-min. reserve capacity and 950 CCA
- ▲ Dual batteries with 380-min. reserve capacity and 1,900 CCA
- Positive terminal battery cover
- Blade-type multi-fused circuits
- By-pass start safety cover on starter

Lights

- Halogen driving/work lights (4), 32,500 candle-power each (2 front and 2 rear)
- ▲ Additional halogen work lights (6), 32,500 candle-power each (2 front, 2 rear, and 2 side)
- Turn signal/flashing (2 front and 2 rear)
- Rear stop and tail (2)
- Rear reflectors (2)
- ▲ Rotating beacon

Operator's Station

- Modular-design ROPS/FOPS canopy with molded roof (conforms to SAE J1040): Isolation mounted
- Left and right access
- Slip-resistant steps and ergonomically located handholds
- ▲ Molded floor mat
- ▲ Headliner
- Coat hook
- 12-volt outlets (2)
- Built-in beverage holders
- Built-in Operator's Manual storage compartment with manual
- Interior rearview mirror
- ▲ Outside rearview mirrors
- Hand throttle with fuel-economy setting at 2,100 rpm
- Suspended foot throttle
- ▲ Tilt steering
- Horn
- Key start switch with electric fuel shutoff
- Engine coolant temperature gauge, illuminated electronic, with audible warning
- Torque converter oil temperature gauge, illuminated electronic, with audible warning
- Fuel gauge, illuminated electronic
- Digital display of engine hours, engine rpm, and system voltage
- Digital display of hydraulic oil temperature
- Monitor system with audible and visual warnings: Engine air restriction indicator / Engine oil pressure indicator with audible warning / Hydraulic filter restriction indicator / Parking brake on/off indicator with audible warning / Seat belt indicator / Low brake pressure
- Suspension vinyl swivel seat with armrests and lumbar support
- ▲ Suspension fabric swivel seat with armrests and lumbar support
- ▲ Air suspension fabric swivel seat with armrests and lumbar support
- Seat belt, 2-in., with retractors
- ▲ Seat belt, 3-in., with retractors
- ▲ Cab: Headliner, dome light, left and right cab doors, tinted safety glass, windshield wiper (one rear and one front), fresh air intake heater/defroster/presurizer (40,000-Btu/hr. [11.7 kW] heater), and 65-amp alternator standard / Front windshield washer, air conditioning (26,000-Btu/hr. [7.6 kW] output and CFC-free R134a refrigerant), 95-amp alternator, and AM/FM/weatherband radio optional / 12-volt outlets (3)

Overall Vehicle

- One-piece unitized construction mainframe
- Vehicle tie-downs (2 front and 2 rear)
- Remote grease bank for front axle
- Rigid-mounted front bumper
- ▲ 400-lb. (181 kg) front counterweight
- ▲ 600-lb. (272 kg) front counterweight
- ▲ 850-lb. (386 kg) front counterweight
- 930-lb. (419 kg) front counterweight
- ▲ 1,100-lb. (500 kg) front counterweight
- ▲ 1,350-lb. (614 kg) front counterweight
- ▲ 1,630-lb. (734 kg) front counterweight
- Dual tank, 36 gal. (136 L), ground-level fueling
- Fuel tank, 69 gal. (261 L), ground-level fueling
- Two-position easy-tilt hood
- ▲ Front trash screen
- ▲ Extended grille frame
- Vandal protection for instrument panel, engine hood, toolbox, hydraulic reservoir, radiator, and fuel tank
- Reverse warning alarm
- Dent-resistant full-coverage rear fenders
- ▲ Front fenders*
- ▲ SMV emblem
- ▲ Rental decal kit
- ▲ Special color paint*



JOHN DEERE

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions specified per ISO9249. No derating is required up to 5,000-ft. (1500 m) altitude for the 310G and up to 10,000-ft. (3050 m) for the 310G with optional altitude-compensating turbocharger, the 310SG, the 410G, and the 710G.

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on a 310G unit with 16.9-24 R4 rear tires, 11L-15, 8 PR F3 front tires, 1.00-cu. yd. (0.76 m³) loader bucket, and 24-in. x 6.5-cu. ft. (610 mm x 0.18 m³) backhoe bucket; a 310SG unit with 19.5L-24, 8 PR R4 rear tires, 11L-16, 12 PR F3 front tires, 1.12-cu. yd. (0.86 m³) loader bucket, and 24-in. x 7.5-cu. ft. (610 mm x 0.21 m³) backhoe bucket; a 410G unit with 19.5L-24, 10 PR R4 rear tires, 11L16, 12 PR F3 front tires, 1.30-cu. yd. (1.00 m³) loader bucket, and 24-in. x 7.5-cu. ft. (610 mm x 0.21 m³) backhoe bucket; and a 710G unit with 21L-28, 14 PR rear tires, 14.5/75-16.1, 10 PR F3 front tires, 1.62-cu. yd. (1.24 m³) loader bucket, 24-in. x 11.1-cu. ft. (610 mm x 0.31 m³) backhoe bucket.

