

B A C K H O E L O A D E R S

310E



THE 14-FOOT 310E



We gave it our best effort...

When we set out to build a better backhoe loader there was no need to start with a clean sheet of paper. After all, our backhoes were already loaded with good ideas – many of which you'll still find in the 310E.

Instead, we started with a clean sheet of steel. Using high-tech, state-of-the-art design and manufacturing tools, John Deere engineers focused their efforts on improving the basic structures that most impact performance. The result? A versatile 14-foot digging machine with substantial backhoe lift, crowd power, stability, and strength.

But we didn't stop there. The 71-hp 310E is also more nimble. Transport and cycle speeds are quick, and gradability and roadability have been enhanced.

Now it's your turn. Spend a few moments reading this brochure to get acquainted with the 310E. Then go to your John Deere dealership for a hands-on demo. You'll be amazed at how user-friendly the 310E is – at a price that's just as comfortable.

Stronger and more productive than the 310D it replaces, the 310E is the best backhoe value in the 14-foot class. And likely all the backhoe you'll ever need.



The big idea behind the 310E's backhoe design

Backhoes are basically used for trenching, right? Oh sure, they also backfill, load, and tackle other tasks, but they're primarily used for digging. That's why the 310E incorporates several ideas found on our larger tracked machines.

With excavator-style boom, bucket, and high-pressure hydraulics, the 310E is an extremely competent backhoe. Slide behind the controls and you'll discover that boom lift, crowd power, and swing torque have increased noticeably. Hydraulics are also smoother, enabling you to do your best work.

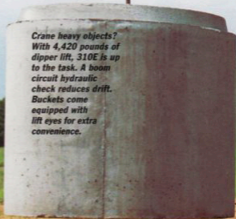
The Power Curve™ boom provides smooth and consistent control throughout the entire digging arc. What's more, it provides additional reach both far and near. For less repositioning and better visibility up-close. Makes loading trucks easier, too.

But it's not just the shape of the boom that makes this backhoe different. A unique bucket link lets you go from power-dig to truck-loading position without leaving the seat or pulling a pin.

The 310E's exclusive bucket linkage provides 190 degrees of rotation, making vertical wall excavations a lot easier. What's more, excavator-style curved sidecutters enable you to dig around buried pipe, reducing handwork.



Crane heavy objects? With 4,420 pounds of dipper lift, 310E is up to the task. A boom circuit hydraulic check reduces drift. Buckets come equipped with lift eyes for extra convenience.





Available quick-coupler lets you change buckets and attachments easily and without tools. Accommodates Case, Cat, and Deere C- and D-Series buckets, too.



Available extendable dipperstick adds digging depth and reach. The outer box extends, firmly grasping cumbersome objects between the bucket and gripper teeth while retracting. Synthetic wear strips are easy to lube, simple to replace.



Lever-activated boom lock secures the backhoe in a vertical position for smooth transport. A rubber bumper ensures that the boom stays snug and virtually rattle-free.



Boom starts wide at the base and narrows to less than 9-inches through the line-of-sight for good visibility. Unlike other excavator-style booms, the 310E's compact cylinders share a single-pin attaching point that doesn't impair side-swing visibility, either.

Boom and dipperstick are box-constructed of high-strength steel for heavy-duty durability without excess weight. Forked top and bottom, and large-diameter pins provide extra beef in these high-stress areas.

Power is nothing without control. Two levers are standard; three- or four-lever controls can be factory or field installed. Low effort and smooth response are yours regardless of which configuration you choose.

Rearward-angled 10-foot-wide stabilizers and no-drift cylinders provide rock-solid stability for lifting heavy objects and precise placement of materials.



Here's why the 310E's loader is the best on any backhoe

The same kind of forward-thinking behind the 310E's heavy-duty backhoe is also evident up front.

Loader arms are laser cut, box-constructed of high-tensile steel, and robot-welded for superior strength and consistent quality. A large-diameter reinforced cross tube adds rigidity and resists torsional stress.

The raised knee provides exceptional reach, enabling you to dump to the center of most trucks for quicker and easier loading.

Smooth combined-function metering and an optimum lift-to-crowd match make filling the bucket nearly effortless. The single bucket cylinder utilizes the piston-end for powerful breakout, and the rod-end for fast dumping. Coupled with the refined linkage, you've got better bucket control for smooth cycles with less spillage. Makes grading easier as well.



Bucket level indicator is within your line-of-sight. Nearby automatic return-to-dig switch is well-protected, yet easily accessible. Hydraulic self-leveling and float are also standard.

A 50-degree turning angle gives the 310E a tight 11-foot 9-inch turning radius for easy moves in close quarters.



Available mechanical-front-wheel drive provides extra power and traction to keep the bucket heaped regardless of what's underfoot.



No more shaking the bucket in an attempt to position the load. Superior reach enables the 310E to dump to the center of the truck for easier loading and fast cycles.


Transmission disconnect switch diverts full engine power to the hydraulics for faster loading.




Short-throw single lever puts low-effort control of the boom and bucket in the palm of your right hand.

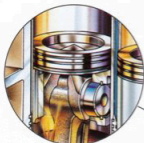
Torque tube spilloose construction (in red) prevents twisting and resists bending. C-shape backwall empties easily and sheds sticky materials.



 *Single bucket cylinder and loader arms that angle outward combine to give an unobstructed view of the work ahead.*

An available quick-coupler lets you couple and release buckets and attachments with a flick of a switch. 





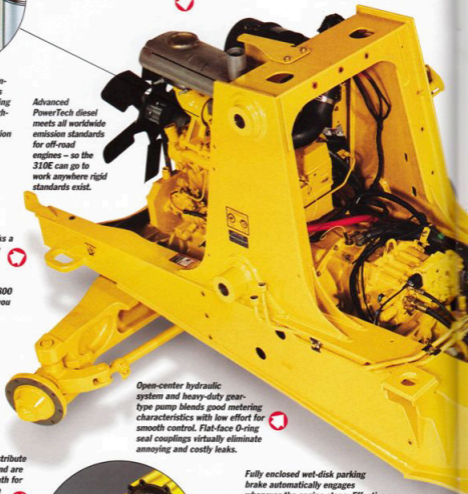
Free-breathing cross-flow cylinder head, specially shaped pistons, and contoured valves increase intake and exhaust flows for maximum power output and top fuel efficiency.

Tight torque-converter match and aggressive gearing let the 310E accelerate fast and climb steep grades, even in 4th gear. Reverse is 10 percent faster than forward for quicker shuttling operations.

Individually replaceable, spin-cast, wet-type cylinder liners dissipate heat for reduced ring wear and oil breakdown. High-ring pistons provide high compression, three low-friction rings deliver superior oil control.

Advanced PowerTech diesel meets all worldwide emission standards for off-road engines – so the 310E can go to work anywhere rigid standards exist.

4.5 L Deere-built diesel packs a whopping 29 percent torque reserve. What's more, this long-stroke diesel actually digs down and delivers additional horsepower at 1,800 rpm. For extra power when you need it.



Open-center hydraulic system and heavy-duty gear-type pump blends good metering characteristics with low effort for smooth control. Flat-face O-ring seal couplings virtually eliminate annoying and costly leaks.

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

Self-adjusting and fully modulated so they require less effort and no maintenance, these chatter-free inboard-mounted wet-disk brakes also self-equalize for no-sweat braking in traffic.



Fully enclosed wet-disk parking brake automatically engages whenever the engine stops. Effective on both front and rear wheels (with MFWD), it also neutralizes the reverser so the 310E can't be operated with the brake engaged. Plus, it never needs adjusting.

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

Nothing runs like a Deere, because nothing is built like one

Don't let its competitive price fool you. There's nothing light-duty about the 310E. From its heavy-duty high-torque PowerTech™ diesel to its inboard wet-disk brakes, the 310E comes equipped, not stripped. Traditional John Deere features like these make it a reliable, long-time performer. And an excellent value.

Positioned securely in the one-piece high-strength unitized frame, powertrain components are isolated from shock-load stress, yet can be individually removed to decrease downtime. In fact, E-Series refinements have reduced the 310's repair times by as much as 22 percent.

Looking for a competitively priced backhoe that has what it takes over the long-haul? The 310E is manufactured to exacting quality standards in an ISO 9001-certified North American factory, so you can rest assured you're getting the best. When you know how it's built, you'll choose a 310E.

The 4-speed fully synchronized collar-shift transmission is mounted directly to the engine for superior balance. It's coupled with a single-stage, dual-phase torque converter and electrically actuated reverser for smooth moves.



Large self-cleaning steps, convenient handholds, and non-skid walk-through floor allow easy entrance and exit.



Bucket-level indicator is within your line-of-sight. Well-positioned ROPS posts allow virtually unrestricted visibility.



How the 310E makes an operator's job less like work



Low-effort differential lock can be engaged on-the-go and equalizes power between the rear wheels for increased traction in poor underfoot conditions or when moving heavy loads.

A flip of a switch is all it takes to engage or disengage the secondary brake. Independent of the service brakes, it automatically engages whenever the engine stops.



Electronic monitor or optional gauges provide vital machine information at-a-glance from either operating position. Console also houses seat belt warning, ignition and automatic parking brake switches, and climate controls (with cab). Switch for MFWD is conveniently positioned and uniquely shaped for no-look on and off.

Nobody works harder at making an operator's job easier than John Deere. Even in its basic attire, the 310E's operator station is decked-out with an array of features that help an operator be his best.

The comfortable high-back contoured vinyl seat provides firm thigh and back support. Up-front one-hand controls allow smooth, simultaneous slide and swivel. A full suspension base is available, or for the ultimate in comfort, opt for the cab and fabric-covered, fully adjustable, suspension armchair seat with lumbar support.

Short-throw, fingertip-actuated electric reverser lever lets you shuttle between forward, neutral, or reverse without taking your hands off the steering wheel. Coupled with a fully synchronized 4-speed transmission, smooth, quick cycles are routine.

When it comes to visibility, the 310E is clearly the leader. Its compact forward console, single bucket cylinder, and divergent loader arms give a good view of the corners and bottom of the bucket. Narrow-post ROP's design keeps side visibility unobstructed as well.

Little "extras" are yours for no extra. There's a place for securing your Thermos and for cradling your coffee cup, an inside mirror, and automatic park brake, too.



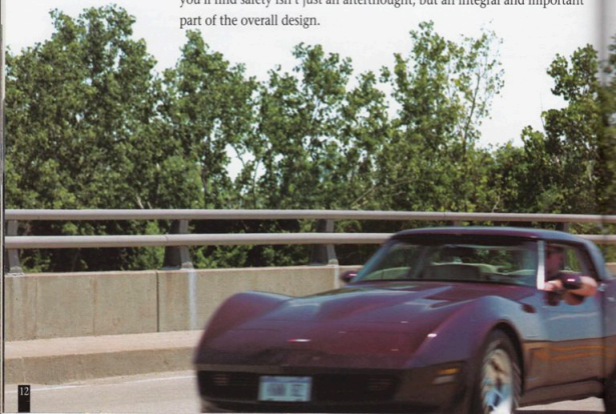
At less than 76 dB(A), the 310E's cab is the quietest available. Add a tilt wheel, air conditioning, full gauge package, and deluxe sound system and it's also the best dressed.

Reduced downtime is no accident with the 310E

Keeping you, as well as your machine, on the job and productive is a high priority at John Deere. That's why we build-in so many features to help keep an operator out of harm's way.

When you're talking safety, words like "acceleration" and "speed" probably don't come to mind. That is, unless your backhoe spends much time in traffic. A tighter torque converter match, revised gearing, and better balance let the 310E accelerate quicker and travel faster. Together with its straight-stopping self-equalizing brakes, this backhoe gives you the confidence and ability to take your show on the road.

From bypass-start protection to automatic park brake, fan guard to neutral-start reverser – no other backhoe offers so much. In the 310E, you'll find safety isn't just an afterthought, but an integral and important part of the overall design.



Daily engine, transmission, and cooling system checks can be made through a sliding door on the right side-shield and a large hinged door atop the hood.

Periodic maintenance is also simple, thanks to a front-axle lube bank, vertical spin-on engine oil and fuel filters, and a host of other smartly engineered convenience items.



Riding on a self-cleaning non-binding nylon channel, this sliding door provides easy ground-level access to engine and transmission dipsticks, engine oil fill, and fuel filter.



This sight gauge provides a quick, contamination-free check of the hydraulic oil level.



Each electrical circuit has its own fuse in this centrally located load center. Helps make troubleshooting and service simpler.



We've got what it takes to keep you working

With its heavy-duty loader, excavator-style backhoe, and enhanced hydraulic system, it doesn't take a lot of expensive options to widen the appeal of your 310E.

Start with a loader or backhoe quick-coupler that lets you change attachments in seconds. Add a "wet kit" to deliver high-flow hydraulic power out back. Or even a solenoid-controlled low-flow auxiliary valve for hand-held or cylinder-actuated attachments. What you have now is a highly versatile machine that can handle virtually any hydraulic-powered attachment. And there are plenty from which to choose.

But regardless of how many "bells and whistles" it may have, no backhoe is any better than the support behind it. That's why every 310E is backed by a large network of dealers with well-stocked parts inventories, factory-trained technicians, and comprehensive support programs. Add a one year warranty, historically high resale value and low owning and operating costs and the reasons for running a John Deere 310E are better than ever.

Scan this page for an idea of the kind of attachments available. Then get your hands on a 310E. And get to work.



LOADER

BACKHOE



Angle dozer



Loader quick coupler



Side-dump bucket



Auger



Pavement-removal bucket



Multi-purpose bucket



Broom



Snowplow



Forks



Claw



Boom lift



Jaw bucket



OTHER



Signpost puller



Posthole digger



Signpost driver



Breaker



Asphalt cutter



Brush cutter



Saw



Cable cutter



Chain saw



Hydraulic alternator



Trash pump



Thumb



Cemetery bucket



Hydraulic compactor



Backhoe quick-coupler



Backfill blade



V-ditching bucket



Ripper teeth



Hydraulic breaker



Hand-held compactor

SPECIFICATIONS

ENGINE	310E
Type	John Deere 4045D - Naturally Aspirated
Rated power @ 2,200 rpm	76 SAE gross hp (57 kW) 71 SAE net hp (53 kW)
John Deere 4045T with altitude-compensating turbocharger	76 SAE gross hp (57 kW) 71 SAE net hp (53 kW)
Cylinders	4
Displacement	276 cu. in. (4,524 L)
Fuel consumption, typical	1.1 to 1.9 gal./hr. (4.2 to 7.2 L/h)
Torque rise	29 percent
With altitude-compensating turbocharger	37 percent
Maximum net torque	218 lb.-ft. (296 Nm)
With altitude-compensating turbocharger	233 lb.-ft. (316 Nm)
Lubrication	pressure system with spin-on filter and cooler
Air cleaner	dual stage dry type with safety element, evacuator valve, and prescreener
Electrical system	12 volt with 65-amp alternator
Sucker-type cooling fan	
TRANSMISSION	four-speed, helical cut gear, collar shift transmission synchronized in all gears with hydraulic reverser
Torque converter, single stage, dual phase with 2.63:1 stall ratio	11 in. (280 mm)
Travel speeds with 19.5L-24 rear tires	<i>Forward</i>
Gear 1	3.6 mph (5.8 km/h)
Gear 2	5.9 mph (9.5 km/h)
Gear 3	14.4 mph (23.2 km/h)
Gear 4	24.4 mph (39.3 km/h)
	<i>Reverse</i>
	4.0 mph (6.4 km/h)
	6.6 mph (10.6 km/h)
	16.1 mph (25.9 km/h)
	27.2 mph (43.8 km/h)
FINAL DRIVES	heavy-duty, inboard planetary final drives evenly distribute shock loads over three gears
BRAKES	hydraulic wet disk, mounted inboard, self adjusting and self equalizing
CAPACITIES	
Fuel tank (with ground level fueling)	36 gal. (136 L)
Engine coolant	17 qt. (16 L)
Engine oil including filter	9 qt. (8.5 L)
Torque converter and transmission	15 qt. (14 L)
Hydraulic system	24 gal. (91 L)
Rear axle	3.5 gal. (13 L)
Mechanical-front-wheel-drive axle	2.3 gal. (8.5 L)
STEERING	hydrostatic power steering and emergency steering conform to ISO5010
Non-powered axle	
Curb turning radius with brakes	11 ft. 9 in. (3.57 m)
Without brakes	13 ft. 3 in. (4.04 m)
Bucket clearance circle with brakes	31 ft. 6 in. (9.61 m)
Without brakes	34 ft. 7 in. (10.55 m)
Steering wheel turns, stop to stop	2.3 to 3.0
Mechanical-front-wheel-drive	
Curb turning radius with brakes	10 ft. 11 in. (3.34 m)
Without brakes	13 ft. 8 in. (4.17 m)
Bucket clearance circle with brakes	29 ft. 9 in. (9.07 m)
Without brakes	35 ft. 3 in. (10.74 m)
Steering wheel turns, stop to stop	2.5
Axle oscillations stop to stop, both axles	22 degrees
Axle ratings (SAE J43)	
Front	17,340 lb. (7865 kg)
Rear	12,610 lb. (5720 kg)
HYDRAULIC SYSTEM	
System	open center
Pressure	
Backhoe	3,625 psi (25 000 kPa)
Loader	2,750 psi (19 000 kPa)
Pump	gear type
Flow @ 2,200 rpm	28 gpm (106 L/min.)
Filter, return oil	10-micron, spin-on enclosed replaceable element

CYLINDERS**310E**

	Bore	Stroke	Rod
Loader boom (2)	3.15 in. (80 mm)	31.1 in. (790 mm)	1.97 in. (50 mm)
Loader bucket (1)	3.15 in. (80 mm)	33.7 in. (856 mm)	1.77 in. (45 mm)
Backhoe boom (1)	4.33 in. (110 mm)	32.3 in. (821 mm)	2.20 in. (56 mm)
Backhoe crowd (1)	4.33 in. (110 mm)	22.3 in. (566 mm)	2.20 in. (56 mm)
Backhoe bucket (1)	3.15 in. (80 mm)	35.1 in. (892 mm)	1.97 in. (50 mm)
Backhoe swing (2)	3.15 in. (80 mm)	12.2 in. (310 mm)	1.77 in. (45 mm)
Backhoe extendable dipperstick (1)	2.48 in. (63 mm)	42.0 in. (1067 mm)	1.26 in. (32 mm)
Backhoe stabilizer (2)	3.15 in. (80 mm)	19.7 in. (500 mm)	1.97 in. (50 mm)
Steering (1) non-powered axle	1.97 in. (50 mm)	9.49 in. (241 mm)	0.98 in. (25 mm)
Steering (1) MPWD	2.56 in. (65 mm)	8.27 in. (210 mm)	1.42 in. (36 mm)

TIRES

	Rear	Front
With non-powered front axle	16.9-24, 8 PR R4 17.5L-24, 10 PR R4 19.5L-24, 8 PR R4	11L-15, 8 PR F3 11L-15, 8 PR F3 11L-16, 12 PR F3
With mechanical-front-wheel-drive	16.9-24, 8 PR R4 19.5L-24, 8 PR R4	12-16.5, 8 PR NHS 12-16.5, 8 PR NHS

SAE OPERATING WEIGHTS

Standard	12,800 lb. (5806 kg)
Cab adds	580 lb. (263 kg)
Mechanical-front-wheel-drive with tires adds	370 lb. (168 kg)
Extendable dipperstick excluding required counterweight adds	440 lb. (200 kg)
Optional 400-lb. counterweight adds	400 lb. (181 kg)
Optional 650-lb. counterweight adds	650 lb. (295 kg)
Optional 250-lb. bolt-on counterweight adds	250 lb. (113 kg)
Backhoe bucket coupler adds	130 lb. (59 kg)

See backhoe and loader performance data for bucket weights.

LOADER BUCKETS

	Width	Heaped Capacity	Weight
Heavy-duty long lip*	86 in. (2180 mm)	1.10 cu. yd. (0.76 m ³)	710 lb. (322 kg)
Heavy-duty long lip**	86 in. (2180 mm)	1.12 cu. yd. (0.86 m ³)	940 lb. (426 kg)
Heavy-duty long lip	86 in. (2180 mm)	1.25 cu. yd. (0.96 m ³)	875 lb. (397 kg)
Multipurpose**	86 in. (2180 mm)	1.12 cu. yd. (0.86 m ³)	1,450 lb. (658 kg)

*Pre-drilled for auxiliary cutting edge.

**With auxiliary cutting edge and skid shoes standard.

BACKHOE PERFORMANCE

	With Standard Backhoe*	With Extendable Dipperstick*	
		Retracted	Extended
Digging force, bucket cylinder	11,106 lb. (49.4 kN)	11,211 lb. (49.9 kN)	11,211 lb. (49.9 kN)
Digging force, crowd cylinder	7,006 lb. (31.2 kN)	6,782 lb. (30.2 kN)	4,944 lb. (21.5 kN)
Swing arc	180 degrees	180 degrees	180 degrees
Operator control	two levers	right foot treadle	right foot treadle
Bucket rotation	190 degrees	190 degrees	190 degrees
Stabilizer angle rearward	18 degrees	18 degrees	18 degrees
Leveling angle	14 degrees	14 degrees	14 degrees

*Backhoe specifications are with 24 in. x 6.5 cu. ft. (610 mm x 0.18 m³) bucket.

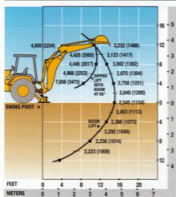
BACKHOE BUCKETS

	Width	Capacity	Weight
Standard duty	18 in. (457 mm)	4.6 cu. ft. (0.13 m ³)	260 lb. (118 kg)
	24 in. (610 mm)	6.5 cu. ft. (0.18 m ³)	300 lb. (136 kg)
Heavy duty with lift loop	12 in. (305 mm)	2.8 cu. ft. (0.11 m ³)	240 lb. (109 kg)
	18 in. (457 mm)	5.1 cu. ft. (0.14 m ³)	335 lb. (152 kg)
	24 in. (610 mm)	7.5 cu. ft. (0.21 m ³)	400 lb. (181 kg)
	30 in. (762 mm)	10.0 cu. ft. (0.28 m ³)	445 lb. (202 kg)

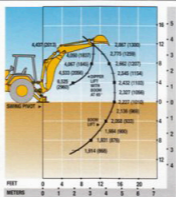
LIFT CAPACITIES*/DIMENSIONS

*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.

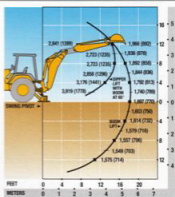
**310E BACKHOE WITH
STANDARD DIPPERSTICK**



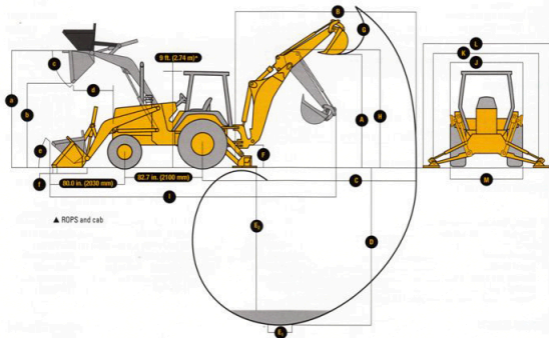
**310E BACKHOE WITH 3-FT. 6-IN. (1.07 M)
EXTENDABLE DIPPERSTICK, RETRACTED**



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



DIMENSIONS (SEE PAGE 18)



BACKHOE

310E

	With Standard Backhoe*	With Extendable Dipperstick*	
		Retracted	Extended
A Loading height, truck loading position	10 ft. 11 in. (3.33 m)	11 ft. 1 in. (3.38 m)	13 ft. 11 in. (4.24 m)
B Reach from center of swing pivot	17 ft. 10 in. (5.44 m)	18 ft. 1 in. (5.51 m)	21 ft. 5 in. (6.53 m)
C Reach from center of rear axle	21 ft. 4 in. (6.50 m)	21 ft. 7 in. (6.58 m)	24 ft. 11 in. (7.59 m)
D Maximum digging depth	14 ft. 3 in. (4.34 m)	14 ft. 5 in. (4.39 m)	17 ft. 11 in. (5.46 m)
E Digging depth (SAE):			
(1) 2-ft. (610 mm) flat bottom	14 ft. 2 in. (4.32 m)	14 ft. 4 in. (4.37 m)	17 ft. 10 in. (5.44 m)
(2) 8-ft. (2440 mm) flat bottom	13 ft. (3.96 m)	13 ft. 4 in. (4.06 m)	17 ft. (5.18 m)
F Ground clearance, minimum	12 in. (305 mm)	12 in. (305 mm)	12 in. (305 mm)
G Bucket rotation	190 degrees	190 degrees	190 degrees
H Transport height	11 ft. 3 in. (3.43 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)
I Overall length, transport	23 ft. 3 in. (7.09 m)	23 ft. 3 in. (7.09 m)	23 ft. 3 in. (7.09 m)
J 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)
K Stabilizer spread – operating	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
L 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)
M Width over tires	81.7 in. (2.07 m)	81.7 in. (2.07 m)	81.7 in. (2.07 m)

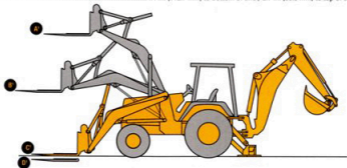
*Backhoe specifications are with 24 in. x 6.5 cu. ft. (610 mm x 0.18 m³) bucket.

LOADER PERFORMANCE WITH BUCKET OPTIONS

	1.00 cu. yd. (0.76 m ³) Heavy-Duty Long Lip	1.12 cu. yd. (0.86 m ³) Heavy-Duty Long Lip	1.25 cu. yd. (0.96 m ³) Heavy-Duty Long Lip	1.12 cu. yd. (0.86 m ³) Multipurpose
Operator control	single lever	single lever	single lever	single lever
Breakout force	8,100 lb. (36.0 kN)	7,950 lb. (35.4 kN)	7,803 lb. (33.8 kN)	7,125 lb. (31.7 kN)
Lifting capacity, full height	5,800 lb. (2631 kg)	5,600 lb. (2540 kg)	5,558 lb. (2523 kg)	5,100 lb. (2313 kg)
A Height to bucket hinge pin, maximum	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)
B Dump clearance, bucket at 45 degrees	8 ft. 10 in. (2.69 m)	8 ft. 10 in. (2.69 m)	8 ft. 2 in. (2.59 m)	8 ft. 6 in. (2.59 m)
C Bucket dump angle, maximum	45 degrees	45 degrees	45 degrees	45 degrees
D Reach at full height, bucket at 45 degrees	30.9 in. (785 mm)	30.2 in. (767 mm)	31.9 in. (809 mm)	32.2 in. (818 mm)
E Rollback angle at ground level	40 degrees	40 degrees	40 degrees	40 degrees
F Digging depth below ground, bucket level	6.3 in. (160 mm)	6.9 in. (175 mm)	5.8 in. (147 mm)	7.8 in. (197 mm)
Raising time to full height	5.2 sec.	5.2 sec.	5.2 sec.	5.2 sec.
Bucket dump time	1.1 sec.	1.1 sec.	1.1 sec.	1.1 sec.
Bucket lowering time (power down)	1.9 sec.	1.9 sec.	1.9 sec.	1.9 sec.

LIFT CAPACITY WITH QUICK COUPLER/FORKS

A Maximum height	3,685 lb. (1673 kg)
B Maximum reach	5,570 lb. (2528 kg)
C At ground line	7,310 lb. (3319 kg)
D Below ground line	4.4 in. (112.7 mm) to bottom of tine / 2.7 in. (68.3 mm) to top of tine



ENGINE	310E	310E	310E
John Deere Model 4045 - 4.5 liter, 71 SAE net hp naturally aspirated, isolation mounted	●	● Backhoe bucket coupler for "C" and "D" series John Deere buckets, Case buckets, and Cat buckets	● Fuel gauge, illuminated electric
John Deere Model 4047 - 4.5 liter, 71 SAE net hp altitude-compensating turbocharged, isolation mounted	■	■ Extendable dipperstick, 3 ft. 8 in. extension	■ Gauge package, illuminated electric
Vertical spin-on engine oil filter	●	● Auxiliary backhoe valve for swingers, thumbs, etc.	■ Engine coolant temperature / Transmission oil temperature / Alternator volts / Fuel gauge
Oil-to-water engine oil cooler	●	● Auxiliary backhoe plumbing for hammers, compactors	● Monitor system with audible and visual warning
Antifreeze, -34°F (-37°C)	●	● SAE controlled load lowering device valves	● Engine air filter restriction indicator / Alternator indicator / Engine coolant temperature indicator with audible warning / Engine oil pressure indicator with audible warning / Hydraulic filter restriction indicator / Torque converter oil temperature indicator / Parking brake on/off indicator with audible warning / Seat belt indicator / Mechanical-front-wheel-drive on/off indicator / Beacon on/off indicator
Coolant recovery tank	●	LOADER	● Seats and seat belts
Serpentine belt with automatic belt tensioner	●	● Hydraulic self leveling	● Non-suspension vinyl swivel seat without armrests
Sucker-type cooling fan	●	● Return-to-dig feature	■ Suspension vinyl swivel seat with armrests and lumbar support
Enclosed safety fan guard	●	● Single-lever control with electric clutch cutoff switch	● Suspension fabric swivel seat with armrests and lumbar support
Dual element dry-type air cleaner with evacuator valve and prescreener	●	● Bucket-level indicator	● Air suspension vinyl swivel seat with armrests and lumbar support
Muffler, underhood with curved-end exhaust stack	●	● Loader boom service lock	● 2-in. seat belt with retractors
Electric ether starting aid	●	● Auxiliary loader hydraulics with two-lever control	● 3-in. seat belt with retractors
Engine coolant heater, 1,000 watts	●	● Loader front coupler	Cab
		● Loader buckets	● Headliner
		● Less bucket, with bucket pins	● Dome light
		● Heavy-duty bucket with lift loops, prepunched for bolt-on cutting edge	● Left cab door
		● Heavy-duty buckets with bolt-on cutting edge, skid plates, and lift loops	● Tinted safety glass
		● Multipurpose buckets with bolt-on cutting edge, skid plates, and lift loops	● Two front and one rear windshield wipers
		HYDRAULIC SYSTEM	● Front windshield washer
		● 28 gpm (108 L/min.) gear pump, open center system	● Fresh air intake heater/defroster/pressurizer 40,000 Btu/hr. (11.7 kW) heater
		● Independent hydraulic reservoir	● Air conditioning
		● Hydraulic oil cooler	● 36,000 Btu/hr. (7.6 kW) output / CFC free R134a refrigerant
		● "O"-ring face seal connectors	● 95-amp alternator
		● 10-micron vertical spin-on filter	● 95-amp alternator
		ELECTRICAL	● AM/FM weatherband radio
		● 12-volt system	● Ride control
		● 65-amp alternator	OVERALL VEHICLE
		● Single battery with 150-min. reserve capacity and 750 CCA	● One-piece unitized construction mainframe
		● Dual batteries with 300-min. reserve capacity and 1,500 CCA	● Vehicle sideworks, two front and one rear
		● Positive terminal battery cover	● Remote grease bank for front axle
		● Blade-type multi-fused circuits	● Rigid mounted front bumper
		● By-pass start safety cover on starter	● Front counterweights
		LIGHTS	● 400 lb. (181 kg)
		● Two front halogen driving/work lights, 32,500 candlepower each	● 650 lb. (295 kg)
		● Two additional front halogen work lights, 32,500 candlepower each	● 900 lb. (408 kg)
		● Two rear halogen work lights, 32,500 candlepower each	● 1,150 lb. (522 kg)
		● Two front and two rear turn signal/flasher	● 1,400 lb. (635 kg)
		● Two rear stop and tail	● Fuel tank, 36 gal. (136 L), ground level fueling
		● Two rear reflectors	● Engine sideworks with sliding service access door
		● Rotating beacon	● Front grille screen
		OPERATOR'S STATION	● Vandal proof protection for instrument panel, engine access doors, and fuel tank
		● Modular design ROPS/FOPS canopy with molded roof	● Reverse warning alarm
		● Isolation mounted / Conforms to SAE J1040	● Switchable to 97 dB(A) or 111 dB(A)
		● Left and right front access	● Dent-resistant rear fenders
		● Slip-resistant steps and ergonomically located handholds	● Rear fender extensions
		● Coar hook	● Front fenders*
		● Built-in beverage and Thermo® bottle holders	● SMV emblem
		● Built-in Operator's Manual storage compartment with manual	● Rental decal kit
		● Interior rearview mirror	● Special color paint*
		● Outside rearview mirrors	● Quarter cab*
		● Hand throttle with fuel economy setting at 2,100 rpm	
		● Suspended foot throttle	
		● Horn	
		● Key start switch with electric fuel shutoff	
		● Hourmeter, illuminated electric	
		● Tachometer/hourmeter, illuminated electric	

KEY: ● Standard equipment ■ Optional or special equipment

*See your John Deere dealer for further information.



Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 70100, using No. 2-D fuel at 35.4° gravity. No derating is required up to 5,000 feet (1500 m) altitude. With optional altitude compensating turbocharger 10,000 feet (3000 m). Gross power is without cooling fan.

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 unit with 17.5L-24, 10 PR R4 rear tires, 11L-15, 8 PR F3 front tires, 1.00 cu. yd. (0.78 m³) loader bucket, 24 in. x 6.5 cu. ft. (810 m³ x 0.18 m³) backhoe bucket.

