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JOHN DEERE

J

BACKHOES

310J | 310SJ | 310SJ TMC | 410J | 410J TMC | 710J



Smart choices.



310J

72 hp; 79 hp (optional)
13,800-lb. operating weight
14-ft. 3-in. backhoe digging depth
8,600-lb. loader breakout force
6,150-lb. loader lift capacity

410J TMC

96 hp
18,942-lb. operating weight
16-ft. 1-in. backhoe digging depth
11,450-lb. loader breakout force
7,215-lb. loader lift capacity

310SJ

92 hp
14,430-lb. operating weight
14-ft. 6-in. backhoe digging depth
11,160-lb. loader breakout force
7,419-lb. loader lift capacity

Whether you use them as a “shovel” or your main machine, there’s a J-Series Backhoe Loader to help you get it done. Loaded for bear or barely loaded, you’ll benefit from proven John Deere advantages such as attachment interchangeability, ground-level daily servicing, industry-low maintenance costs, smooth and responsive hydraulics, and unsurpassed

resale value. Enhancements such as an advanced multi-function diagnostic monitor, durable solid-state electronics, and improved cooling system make the J-Series even simpler to run and cheaper to keep. Plus, Total Machine Control (TMC) and Tool Carrier options raise the bar even higher, offering one-of-a-kind control and versatility.



310SJ TMC

92 hp
 17,937-lb. operating weight
 14-ft. 11-in. backhoe digging depth
 11,900-lb. loader breakout force
 7,200-lb. loader lift capacity

710J

123 hp
 23,000-lb. operating weight
 17-ft. 10-in. backhoe digging depth
 15,540-lb. loader breakout force
 9,277-lb. loader lift capacity

410J

96 hp
 15,000-lb. operating weight
 15-ft. 10-in. backhoe digging depth
 10,300-lb. loader breakout force
 7,200-lb. loader lift capacity

Enhanced cooling package employs oil-to-water hydraulic and transmission coolers. Fewer stacked cores allow faster cold-weather warm-up, less plugging, and simplified cleanout.

Total Machine Control (TMC) option features industry-exclusive in-the-armrest joysticks for smooth fingertip control, exceptional fatigue-beating comfort, and enhanced productivity.

State-of-the-art multi-function monitor with easy-to-read messaging, large analog gauges, and LED warning lights gives vital operating info at a glance.

Fuel-efficient Tier 2 PowerTech™ wet-sleeve diesels deliver long-term durability and start easier in cold weather.

Tool carrier with quick-coupler boasts increased lift capability and best-in-class work-tool visibility — plus set-and-forget parallel lift, return-to-carry, and boom height kick-out. It's available on either TMC machine.



Worksite Pro™ top-hook coupler allows quick and easy single-pin bucket changes. Accommodates 12-, 18-, and 24-inch heavy-duty buckets.



Optional limited-slip mechanical-front-wheel drive delivers 80-percent of available power to the wheel with the best traction. Engage it "on the fly", for true all-wheel drive when and where you need it.



Curved-knee loader-boom design enhances visibility and provides superior reach, easily dumping to the center of the truck. For fuller loads, faster.

Simply more productive.

Whether you're loading trucks, busting up blacktop, picking pipe, digging deep, or moving materials, J-Series Backhoes are more than up to it. Powerful and quick high-pressure hydraulics deliver generous breakout and lift capacity at both ends, along with impressive backhoe crowd power and swing torque. Excavator-style hydraulics smoothly blend functions,

so your operators won't have to work hard to be more productive. The standard PowerShift™ transmission is also easy to operate, offering smooth, on-the-go clutchless shifting. Delivers faster acceleration, higher transport speed, and better hill-climbing capability, too. No other backhoe lineup offers a similar combination of power, speed, and ability.



Extendable dipperstick adds digging depth, reach, and ability. Outer-box design grasps objects such as concrete slabs between the bucket and gripper teeth while extending or retracting. For easier loading into trucks.



J-Series Backhoes provide the swing-torque, boom, and dipperstick lift capacity needed to crane heavy objects.

All front and rear attachments are interchangeable with those from previous John Deere backhoes.

High-pressure hydraulics deliver smooth response, superior combined-function metering, and low-effort control regardless of the load or application.

Rearward-angled, box-constructed stabilizers and no-drift cylinders ensure rock-solid stability.



Do more without

Armrest-mounted controls enable TMC backhoes to be operated with the seat rotated up to 90 degrees from the rear position. For those times when you need to focus on the action beside you.

Choose the backhoe hydraulic speed you need. *Fast* for up to 20-percent quicker cycle times. *Medium* for normal digging. Or *slow* for craning objects, work in confined spaces, or excavating around existing utilities. Controls deliver the same low-effort, consistent response, regardless of hydraulic speed.

With auto-idle, momentarily releasing the joysticks slows engine speed, reducing fuel consumption and noise. Preset speed automatically resumes when a joystick is activated.

Backlit pushbuttons in the sealed switch module allow fingertip control of various functions such as return-to-dig.

Go from backhoe- to excavator-style controls at the push of a button. Adjusting hydraulic flow when changing attachments is also pushbutton easy.



lifting a finger.

Want maximum productivity with minimal effort? Add the TMC package to a 310SJ or 410J Backhoe. You'll enjoy intuitive, effortless fingertip control—and up to 20-percent faster cycle times. Joysticks respond easily to an operator's touch, for quicker, smoother control of loader and backhoe functions. Controls are conveniently located in the armrests, so you can even operate the backhoe while facing to the side. There's also a unique mini-joystick that lets you run both loader and backhoe simultaneously without removing your hands from the controls.



Fatigue-beating joysticks provide smooth, intuitive control of auxiliary loader attachments, extendible dipperstick, backhoe auxiliary attachments, hammer, MFWD, and horn.



Need to reposition quickly or get unstuck? Mini-joystick lets you run the loader and backhoe simultaneously without removing your hands from the joysticks or swiveling the seat.



Joystick switch provides fingertip control of hydraulic-powered attachments. Toggle on and off, or push and hold for momentary control. Armrest-mounted switches operate the stabilizers.



Parallel-lift that's simply unparalleled.

John Deere backhoes are already highly capable machines. Opt for a tool carrier on a TMC-equipped 310SJ or 410J and take versatility to an even higher level. With the most accurate leveling system available on a backhoe loader, you'll have all the finesse you need to get more done. Unlike mechanical loader linkages, exclusive

electrohydraulic parallel-lift employs fewer parts, so you'll spend less time on maintenance. And you won't have to worry about replacing current attachments, either. The quick-coupler lets you hook up to a variety of John Deere E- and G-Series as well as non-Deere loader attachments. For versatility without parallel, opt for a John Deere Tool Carrier.



One-of-a-kind electro-hydraulic design delivers unsurpassed capability. With true parallel-lift throughout the lift arc, it's perfect for a multitude of material-handling tasks.

Boom height kick-out sets maximum desired dump height, while return-to-carry and return-to-dig predetermine the lowered boom and bucket position. Helps speed production in repetitive loading applications.

Unlike traditional designs, John Deere's Tool Carrier eliminates the Z-bar linkage, self-leveling rod, and numerous grease zerks.



Low-profile loader knee is narrower through the line of sight, for a better view of the attachment. Visibility to the forks at truck-bed height is best in class.



Worksite Pro™ quick-coupler lets you change attachments quickly and easily without leaving your seat. Accommodates a wide variety of attachments.



Backlit pushbuttons give convenient control of boom height kick-out, return-to-dig, and return-to-carry right from the seat.



Choose from joystick, pilot, two-lever, three-lever, four-lever, or SAE excavator-style controls. For smooth, combined-function metering. (Shown with pilot controls.)



Advanced monitor provides:

Vital and general operating information including hours, engine speed, and gear selection.

Industry-exclusive onboard diagnostics of most sensors and switches for quick troubleshooting.

Available machine security system prevents unauthorized machine movement. Requires pass code.



Ride-control option smooths moves over rough terrain, so full loads are more likely to arrive at their destination — instead of somewhere in-between. Reduces operator fatigue, too.

Comfortably ahead of the competition.

Who wouldn't be more productive in the spacious, well-equipped cab of a J-Series Backhoe? Its expansive, curved windshield provides a virtually unobstructed panoramic view of the work at hand and surrounding jobsite. An automatic high-velocity climate-control system and fully adjustable suspension seat ensure year-round comfort. The

state-of-the-art multi-function monitor with easy-to-read messaging, large analog gauges, and LED warning lights gives vital operating info at a glance. Add to these amenities such as an AM/FM radio, 12-volt power ports, and generous storage space for cups and other carry-ons, and it's easy to see why your operators will be more comfortably productive.

Standard PowerShift™ transmission allows no-clutch on-the-go shifting on all machines. It's an industry exclusive on the 310J.

Optional sound-suppression package significantly reduces noise levels and operator fatigue.

With large convenient handholds, self-cleaning skid-resistant steps, and wide entryways, getting to work has never been easier. Separate service and automatic park brake systems provide an extra measure of security.

No shortage of storage in here. There are cup holders, a place for a cell phone, and extra room for other carry-ons.

Need to extend your workday? Deluxe lighting package provides unsurpassed 360-degree illumination (optional on 310J).



TMC option includes a sculpted suspension seat with fully adjustable armrests for all-day comfort and support.

Tilt steering wheel is infinitely adjustable. Angles up and out of the way for swiveling the seat or passing through the cab.

Highly efficient HVAC system with automotive-style directional vents helps keep the view clear and the cab comfortable.

You've got cruise control in your pickup — why not in your backhoes? Industry-exclusive rotary throttle lets you dial-in the speed you need. Engaging the brakes automatically drops engine speed to idle.

Auto-idle automatically reduces engine speed when hydraulics aren't in use. Reduces noise and preserves precious fuel.

12-volt power ports on both sides of the console provide convenient power for cell phones and other devices.

Totally welded mainframe resists torsional stress, absorbs shock loads, and delivers maximum strength. Simplifies service access to major components, too.

Powertrain components are isolated from shock-load stress and individually removable to help speed repairs and downtime.

Solid-state electrical system eliminates numerous relays and connectors for enhanced reliability.



Nothing lasts like a Deere.

Built with state-of-the-art tools and techniques by a quality-conscious workforce at our world-class facility in Dubuque, Iowa, J-Series Backhoes deliver unsurpassed reliability and uptime. Everything about these backhoes — from their exceptionally

durable one-piece, totally welded mainframe to their box-constructed loaders, booms, and dippersticks — is designed for maximum uptime. When you know how they're built, you'll run a John Deere.



Engine hood is constructed of a resilient composite material that resists impacts and damage. Standard grille extensions further protect the front end.



No more stacked hydraulic and transmission coolers in front of the radiator. With improved airflow, fan speed has been reduced for less debris build-up and noise. Clean-out is easier, too.



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

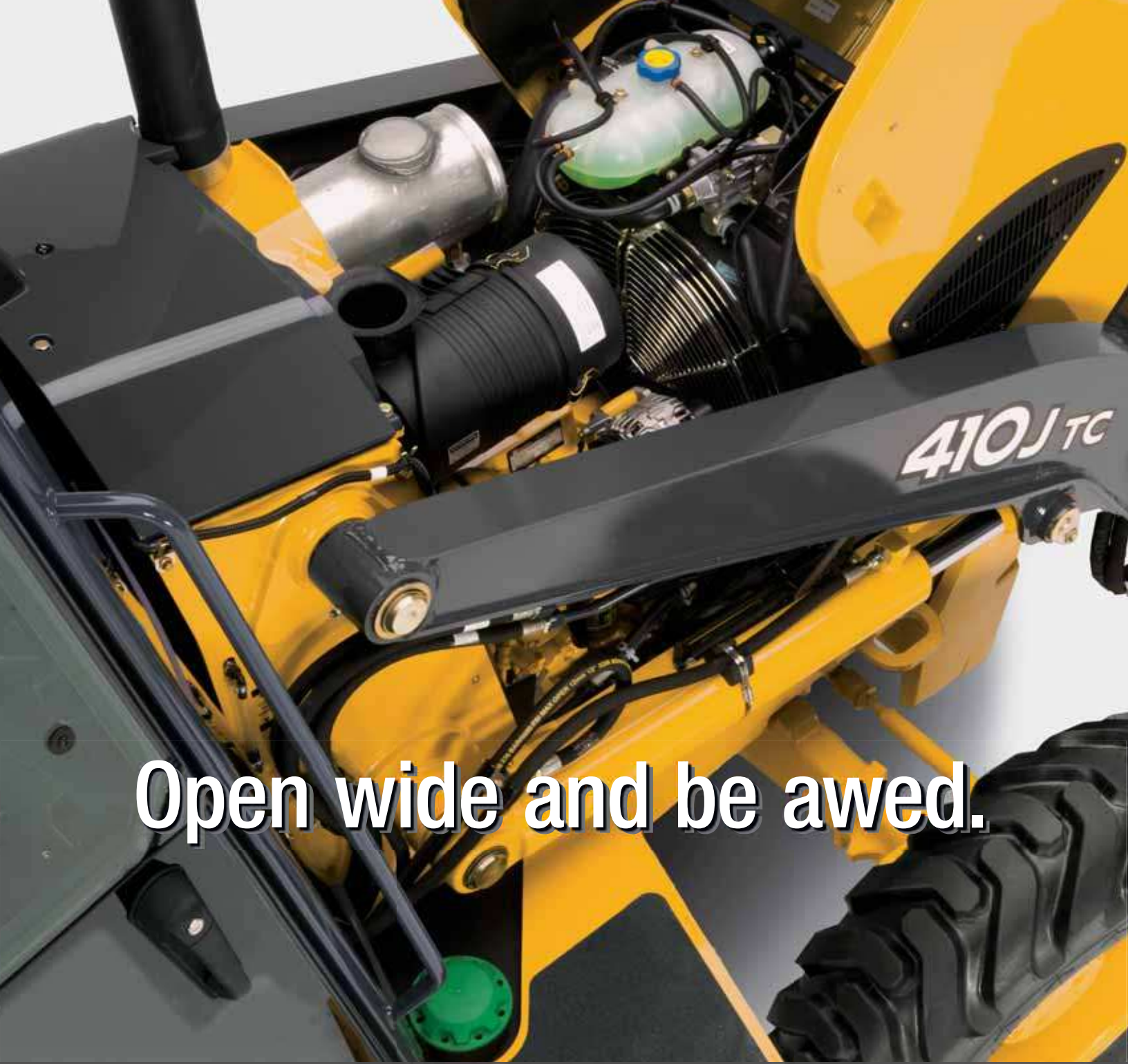
Wet-sleeve liners provide uniform engine cooling and longer durability than cast-in-block designs.

Large pins and replaceable bushings deliver long-term durability, and keep the backhoe and loader tightly secured and digging true.

Sealed front axle and larger kingpins and differentials help ensure drivetrain durability.

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

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



Open wide and be awed.

500-hour engine and 2,000-hour hydraulic oil service intervals enable J-Series Backhoes to work longer between changes.

Wide-mouth fuel tank allows fast, ground-level fill-ups. Generous capacity lets you work longer before refueling.

Diagnostic test ports and available fluid-sample ports help speed preventative maintenance and troubleshooting.

Compare routine maintenance costs with other backhoes during their first 3,000 hours. You'll discover what owners already know — it costs less to run a Deere.

Your John Deere dealer has the parts and service you need to stay productive, and offers a wide variety of preventative maintenance and support programs to help control costs.



Vertical spin-on engine, transmission, and hydraulic filters and quick-release fuel filters allow quick, no-spill changes.

Tilt the hood and discover the many advantages that make J-Series Backhoes the simplest, least expensive to maintain. Same-side ground-level access to checkpoints makes quick work of the daily routine. Service intervals have been extended so you can work longer between changes. And because no maintenance beats low maintenance, self-adjusting serpentine belts, park brake, and wet-disk brakes seldom, if ever, require attention. With the John Deere J-Series, you'll spend less time and expense getting ready for work—and more time getting work done.



Convenient lube and periodic maintenance chart ensures that nothing gets overlooked. Synthetic bushings in the loader linkage and extendable dipperstick eliminate numerous grease zerks.



If something goes wrong, the monitor displays easy-to-understand diagnostic information to get you back up and running quickly.



Split floor mats and a large removable panel provide convenient, top-side access to internal components.

310J



Engine

310J

Manufacturer and Model	John Deere PowerTech™ 4045D naturally aspirated, standard / 4045T turbocharged, optional
Non-Road Emission Standards	certified to EPA Tier 2 emissions
Displacement	276 cu. in. (4.5 L)
Net Peak Power (ISO9249)	
4045D Standard	72 hp (54 kW) @ 2,000 rpm
4045T Optional	79 hp (59 kW) @ 2,000 rpm
Net Peak Torque (ISO9249)	
4045D Standard	209 lb.-ft. (284 Nm) @ 1,000 rpm
4045T Optional	250 lb.-ft. (340 Nm) @ 1,400 rpm
Net Torque Rise	
4045D Standard	36%
4045T Optional	41%
Lubrication	pressure system with spin-on filter and cooler
Air Cleaner	dual-stage dry type with safety element and evacuator valve

Cooling

Fan Type	suction
Engine Coolant Rating	-34°F (-37°C)
Engine Oil Cooler	oil to water

Powertrain

Transmission	4-speed, helical-cut gears, full powershifted with hydraulic reverser standard; electric clutch cutoff on gearshift and loader levers
Torque Converter	single stage, dual phase with 2.63:1 stall ratio; 11 in. (280 mm)

Maximum Travel Speeds (with 19.5L-24

rear tires)	Forward	Reverse
4045D Standard		
Gear 1	3.5 mph (5.7 km/h)	4.5 mph (7.2 km/h)
Gear 2	6.5 mph (10.5 km/h)	8.2 mph (13.2 km/h)
Gear 3	13.3 mph (21.4 km/h)	N/A
Gear 4	22.4 mph (36.1 km/h)	N/A
4045T Optional		
Gear 1	3.5 mph (5.7 km/h)	4.5 mph (7.2 km/h)
Gear 2	6.5 mph (10.4 km/h)	8.2 mph (13.2 km/h)
Gear 3	13.3 mph (21.4 km/h)	N/A
Gear 4	22.3 mph (35.9 km/h)	N/A

Axles

Axle Oscillations, Stop to Stop (both axles)	22 deg.		
Axle Ratings	<i>Mechanical- front-wheel drive</i>	<i>Non-powered front axle (optional)</i>	<i>Rear axle</i>
Static	26,455 lb. (12 000 kg)	39,683 lb. (18 000 kg)	28,660 lb. (13 000 kg)
Dynamic	13,228 lb. (6000 kg)	15,873 lb. (7200 kg)	15,432 lb. (7000 kg)
Ultimate	62,170 lb. (28 200 kg)	72,642 lb. (32 950 kg)	67,461 lb. (30 600 kg)

Differentials open (mechanical-front-wheel-drive) / electric, foot-actuated, 100% hydraulically locking (rear)

Steering (ISO5010) hydrostatic power and emergency steering

Axle	<i>Mechanical- front-wheel drive</i>	<i>Non-powered front axle (optional)</i>
Curb-Turning Radius		
With Brakes	11 ft. 9 in. (3.58 m)	11 ft. 4 in. (3.44 m)
Without Brakes	13 ft. 5 in. (4.08 m)	12 ft. 11 in. (3.94 m)
Bucket Clearance Circle		
With Brakes	33 ft. 2 in. (10.11 m)	32 ft. 5 in. (9.89 m)
Without Brakes	36 ft. 3 in. (11.05 m)	35 ft. 4 in. (10.76 m)
Steering Wheel Turns (lock to lock)	2.7	3.3

Final Drives heavy-duty, outboard planetary final drives distribute shock loads over 3 gears

Brakes (SAE J1473)

- Service power assisted, hydraulic wet disc, mounted inboard, self-adjusting and self-equalizing
- Parking spring-applied, hydraulically released, wet, multi disc, independent of service brakes with electric switch control

Hydraulics

- Main Pump open center, single-gear pump
- Pump Flow @ 2,200 rpm
 - Backhoe 28 gpm (106 L/min.)
 - Loader 28 gpm (106 L/min.)
- System Relief Pressure
 - Backhoe 3,625 psi (24 993 kPa)
 - Loader 2,900 psi (19 995 kPa)
- Backhoe Controls** two-lever manual standard; pilot controls with pattern select, three-lever manual controls with foot swing, and manual and/or electric auxiliary functions optional
- Loader Controls** single-lever control with electric clutch cutoff switch standard; manual auxiliary function optional

Cylinders

Type	heat-treated, chrome-plated, polished rods; hardened-steel (replaceable bushings) pivot pins		
	<i>Bore</i>	<i>Rod Diameter</i>	<i>Stroke</i>
Loader Boom (2)	3.15 in. (80 mm)	1.97 in. (50 mm)	31.10 in. (790 mm)
Loader Bucket (1)	3.54 in. (90 mm)	1.97 in. (50 mm)	29.29 in. (744 mm)
Backhoe Boom (1)	4.33 in. (110 mm)	2.20 in. (56 mm)	32.32 in. (821 mm)
Backhoe Crowd (1)	4.33 in. (110 mm)	2.48 in. (63 mm)	21.77 in. (553 mm)
Backhoe Bucket (1)	3.15 in. (80 mm)	1.97 in. (50 mm)	35.12 in. (892 mm)
Backhoe Swing (2)	3.15 in. (80 mm)	1.77 in. (45 mm)	12.20 in. (310 mm)
Backhoe Extendable Dipperstick (1)	2.48 in. (63 mm)	1.26 in. (32 mm)	41.81 in. (1062 mm)
Backhoe Stabilizer (2)	3.15 in. (80 mm)	1.97 in. (50 mm)	19.69 in. (500 mm)
Non-Powered Axle (1)	2.76 in. (70 mm)	1.65 in. (42 mm)	8.39 in. (213 mm)
Mechanical-Front-Wheel Drive (1)	2.64 in. (67 mm)	1.65 in. (42 mm)	8.27 in. (210 mm)

Electrical

- Voltage 12 volt
- Alternator Rating 90 amp

Operator Station

- Type (SAE J1040) canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof

Overall Vehicle

- Mainframe unitized one-piece construction

Tires

	<i>Front</i>	<i>Rear</i>
Non-Powered Front Axle	11L-15 SL F-3 (8)	19.5L-24 R-4 (10)
	11L-16 SL F-3 (12)	19.5L-24 R-4 (10)
Mechanical-Front-Wheel-Drive	12-16.5 NHS SS-1 (8)	19.5L-24 R-4 (10)

Serviceability

- Hydraulic Oil Filter, Spin-On Enclosed Replaceable Element, Vertically Mounted 6-micron filtration / 1,000 service hours

Refill Capacities

- Cooling System 22 qt. (21 L)
- Rear Axle 19 qt. (18 L)
- Engine Oil (including vertical spin-on filter) 14 qt. (13 L)
- Torque Converter and Transmission 16 qt. (15 L)
- Fuel Tank (with ground-level fueling) 41 gal. (155 L)
- Hydraulic System 24 gal. (91 L)
- Hydraulic Reservoir 10.2 gal. (39 L)
- Mechanical-Front-Wheel-Drive Housing
 - Axle 7 qt. (6.5 L)
 - Planetary (each) 1 qt. (1 L)

Operating Weights

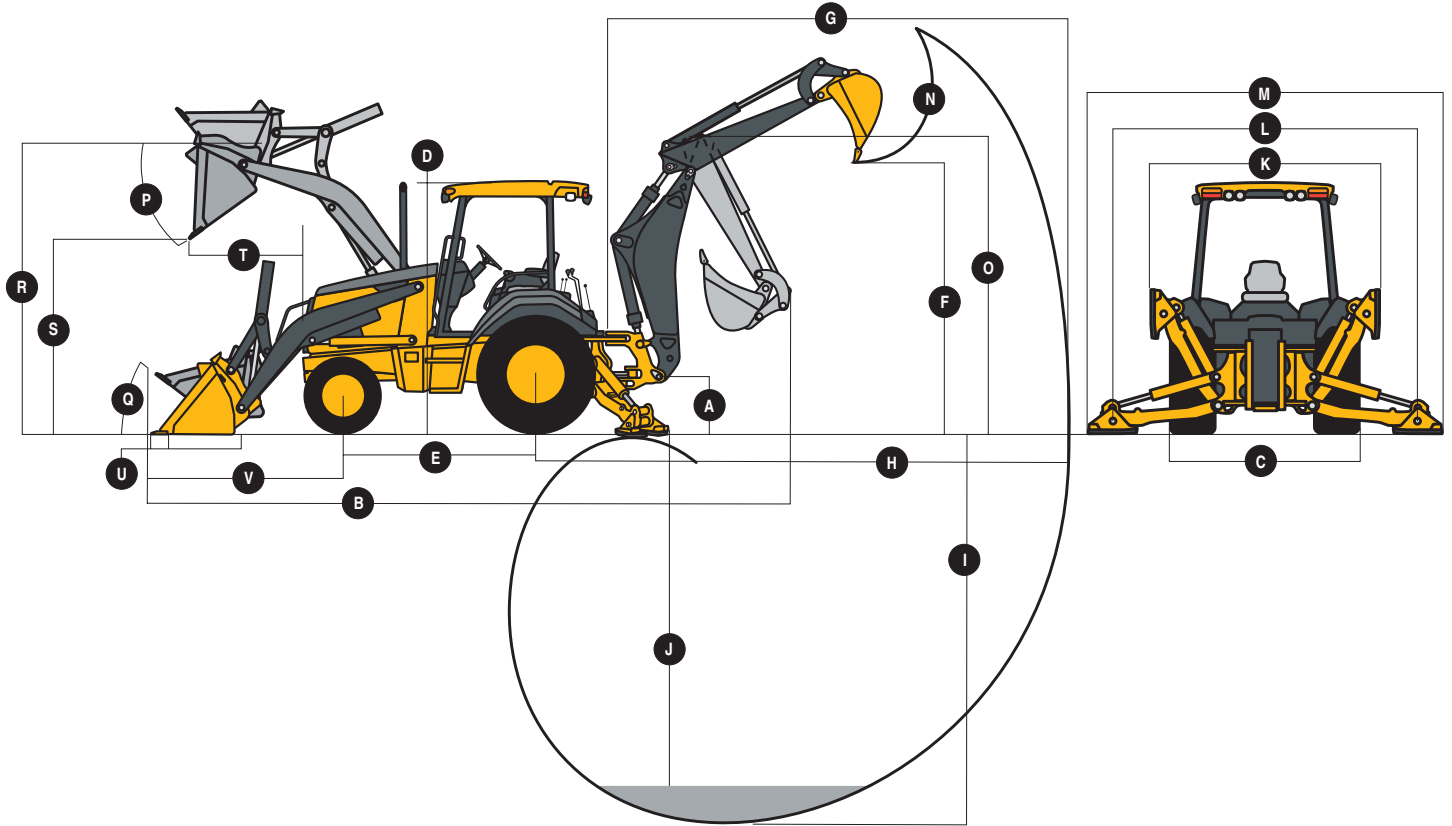
- With Full Fuel Tank, 175-lb. (79 kg) Operator, and Standard Equipment 13,800 lb. (6258 kg)
- Typical with Cab, Mechanical-Front-Wheel Drive, Extendable Dipperstick, and 1,000-lb. (454 kg) Counterweight 16,140 lb. (7319 kg)

Optional Components

- Cab 580 lb. (263 kg)
- Mechanical-Front-Wheel Drive with Tires 370 lb. (168 kg)
- Extendable Dipperstick 440 lb. (200 kg)
- Front Loader Coupler 630 lb. (286 kg)
- Backhoe Bucket Coupler 130 lb. (59 kg)

Overall Dimensions 310J

- A** Ground Clearance (minimum) 12 in. (305 mm)
- B** Overall Length (transport) 23 ft. 3 in. (7.09 m)
- C** Width over Tires 6 ft. 10 in. (2.08 m)
- D** Height to Top of ROPS/Cab 9 ft. 0 in. (2.74 m)
- E** Length from Axle to Axle
 - Non-Powered Front Axle 6 ft. 11 in. (2.11 m)
 - Mechanical-Front-Wheel-Drive Axle 7 ft. 0 in. (2.14 m)



Backhoe Dimensions / Performance 310J

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

- Bucket Range 12–30 in. (305–762 mm)
- Digging Force
 - Bucket Cylinder 11,106 lb. (49.4 kN)
 - Crowd Cylinder 7,006 lb. (31.2 kN)
- Swing Arc 180 deg.
- Operator Control two levers

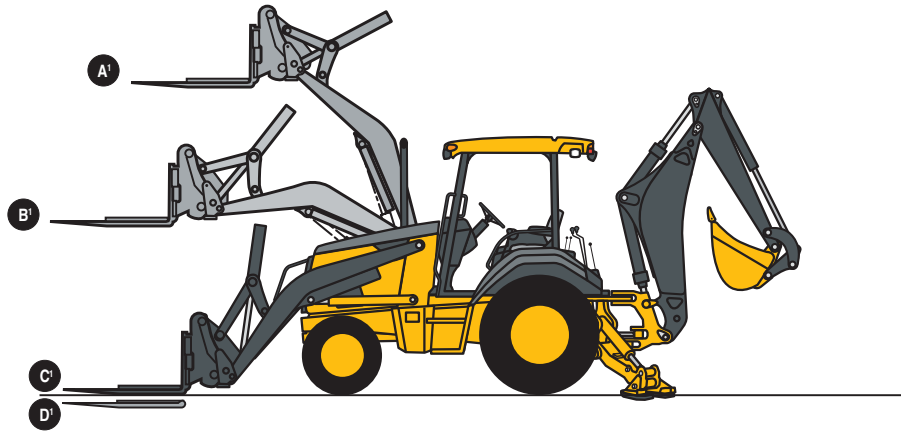
	<i>With Standard Backhoe</i>	<i>With Optional Extendable Dipperstick</i>	
		<i>Retracted</i>	<i>Extended</i>
F Loading Height (truck loading position)	10 ft. 11 in. (3.33 m)	11 ft. 1 in. (3.38 m)	13 ft. 11 in. (4.24 m)
G Reach from Center of Swing Pivot	17 ft. 10 in. (5.44 m)	18 ft. 1 in. (5.51 m)	21 ft. 5 in. (6.53 m)
H 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)
I Digging Depth (SAE maximum)	14 ft. 3 in. (4.34 m)	14 ft. 5 in. (4.39 m)	17 ft. 11 in. (5.46 m)
J Digging Depth (SAE)			
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)
8-ft. (2440 mm) Flat Bottom	13 ft. 0 in. (3.96 m)	13 ft. 4 in. (4.06 m)	17 ft. 0 in. (5.18 m)
K 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)
L Stabilizer Spread (operating)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
M 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)
N Bucket Rotation	190 deg.	190 deg.	190 deg.
O Transport Height	11 ft. 3 in. (3.43 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)

Loader Dimensions / Performance 310J

P Bucket Dump Angle (maximum)	45 deg.				
Q Rollback Angle at Ground Level	40 deg.				
	<i>Heavy-duty</i>	<i>Heavy-duty</i>	<i>Heavy-duty long lip</i>	<i>Multipurpose</i>	<i>Multipurpose</i>
Bucket Capacity	1.00 cu. yd. (0.77 m ³)	1.12 cu. yd. (0.86 m ³)	1.25 cu. yd. (0.96 m ³)	1.00 cu. yd. (0.77 m ³)	1.25 cu. yd. (0.96 m ³)
Width	86 in. (2184 mm)	86 in. (2184 mm)	86 in. (2184 mm)	82 in. (2083 mm)	86 in. (2184 mm)
Weight	800 lb. (363 kg)	860 lb. (390 kg)	892 lb. (405 kg)	1,699 lb. (771 kg)	1,750 lb. (795 kg)
Breakout Force	8,500 lb. (37.8 kN)	8,600 lb. (38.3 kN)	7,975 lb. (35.5 kN)	7,375 lb. (32.8 kN)	7,175 lb. (31.9 kN)
Lift Capacity (full height)	6,200 lb. (2815 kg)	6,150 lb. (2792 kg)	5,675 lb. (2576 kg)	5,050 lb. (2293 kg)	4,675 lb. (2122 kg)
R 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)	11 ft. 1 in. (3.38 m)
S Dump Clearance (bucket at 45 deg.)	8 ft. 10 in. (2.69 m)	8 ft. 10 in. (2.69 m)	8 ft. 2 in. (2.48 m)	8 ft. 6 in. (2.59 m)	8 ft. 6 in. (2.59 m)
T Reach at Full Height (bucket at 45 deg.)	30.9 in. (785 mm)	30.2 in. (767 mm)	31.9 in. (809 mm)	32.2 in. (818 mm)	32.2 in. (818 mm)
U 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)	7.8 in. (197 mm)
V Length From Front Axle Centerline to Bucket Cutting Edge	6 ft. 8 in. (2.03 m)	6 ft. 8 in. (2.03 m)	7 ft. 2 in. (2.18 m)	7 ft. 1 in. (2.15 m)	7 ft. 3 in. (2.20 m)

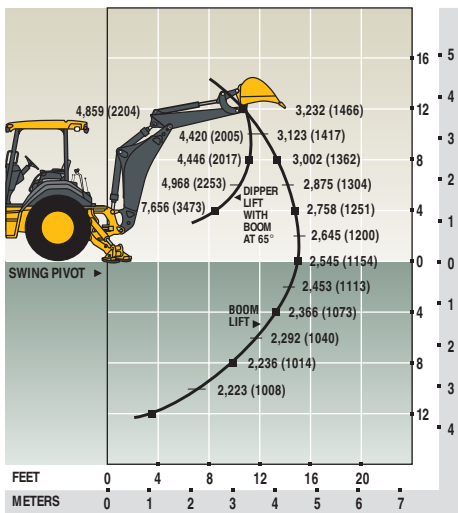
Lift Capacity with Quick-Coupler / Forks

A' Maximum Height	3,379 lb. (1533 kg)
B' Maximum Reach	5,235 lb. (2375 kg)
C' At Ground Line	6,825 lb. (3096 kg)
D' Below Ground Line	10.3 in. (262 mm)

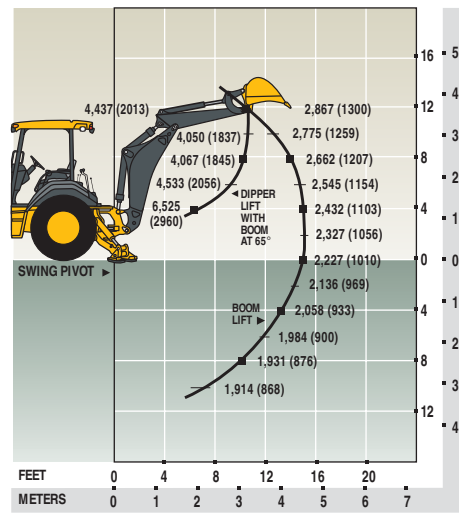


Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

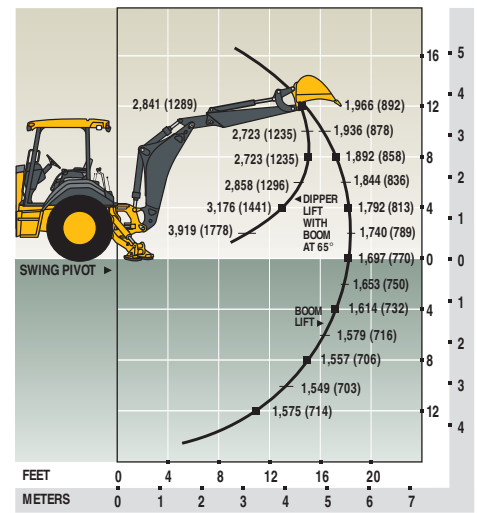
310J Backhoe with Standard Dipperstick



310J Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Retracted



310J Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Extended



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

310SJ



Engine

310SJ

Manufacturer and Model	John Deere PowerTech™ 4045T turbocharged, standard
Non-Road Emission Standards	certified to EPA Tier 2 emissions
Displacement	276 cu. in. (4.5 L)
Net Peak Power (ISO9249)	92 hp (69 kW) @ 2,000 rpm
Net Peak Torque (ISO9249)	282 lb.-ft. (384 Nm) @ 1,400 rpm
Net Torque Rise	46%
Lubrication	pressure system with spin-on filter and cooler
Air Cleaner	dual-stage dry type with safety element and evacuator valve

Cooling

Fan Type	suction
Engine Coolant Rating	-34°F (-37°C)
Engine Oil Cooler	oil to water

Powertrain

Transmission	4-speed, helical-cut gears, full powershifted with hydraulic reverser standard; electric clutch cutoff on gearshift and loader levers
Torque Converter	single stage, dual phase with 2.63:1 stall ratio; 11 in. (280 mm)

Maximum Travel Speeds (with 19.5L-24

rear tires)	<i>Forward</i>	<i>Reverse</i>
Gear 1	3.5 mph (5.7 km/h)	4.5 mph (7.2 km/h)
Gear 2	6.5 mph (10.4 km/h)	8.1 mph (13.1 km/h)
Gear 3	13.3 mph (21.4 km/h)	13.1 mph (21.1 km/h)
Gear 4	22.5 mph (36.2 km/h)	N/A

Axles

Axle Oscillations, Stop to Stop (both axles) 22 deg.

Axle Ratings	<i>Mechanical- front-wheel drive</i>	<i>Non-powered front axle (optional)</i>	<i>Rear</i>
Static	26,455 lb. (12 000 kg)	39,683 lb. (18 000 kg)	28,660 lb. (13 000 kg)
Dynamic	13,228 lb. (6000 kg)	15,873 lb. (7200 kg)	15,432 lb. (7000 kg)
Ultimate	62,170 lb. (28 200 kg)	72,642 lb. (32 950 kg)	67,461 lb. (30 600 kg)

Differentials automatic, traction-control limited slip (mechanical-front-wheel-drive) / electric, foot-actuated, 100% hydraulically locking (rear)

Steering (ISO5010) hydrostatic power and emergency steering

Axle	<i>Mechanical- front-wheel drive</i>	<i>Non-powered front axle (optional)</i>
Curb-Turning Radius		
With Brakes	11 ft. 9 in. (3.58 m)	11 ft. 4 in. (3.44 m)
Without Brakes	13 ft. 5 in. (4.08 m)	12 ft. 11 in. (3.94 m)
Bucket Clearance Circle		
With Brakes	33 ft. 2 in. (10.11 m)	32 ft. 5 in. (9.89 m)
Without Brakes	36 ft. 3 in. (11.05 m)	35 ft. 4 in. (10.76 m)
Steering Wheel Turns (lock to lock)	2.7	3.3

Final Drives heavy-duty, outboard planetary final drives distribute shock loads over 3 gears

Brakes (SAE J1473)

Service	power assisted, hydraulic wet disc, mounted inboard, self-adjusting and self-equalizing
Parking	spring-applied, hydraulically released, wet, multi disc, independent of service brakes with electric switch control

Hydraulics

Main Pump	open center, gear type, tandem with unloader
Pump Flow @ 2,200 rpm	
Backhoe	36 gpm (136 L/min.)
Loader	28 gpm (106 L/min.)

Hydraulics (continued)**310SJ**

System Relief Pressure	
Backhoe	3,625 psi (24 993 kPa)
Loader	3,625 psi (24 993 kPa)
Backhoe Controls	two-lever manual standard; pilot controls with pattern select, three-lever manual controls with foot swing, and manual and/or electric auxiliary functions optional
Loader Controls	single-lever control with electric clutch cutoff switch standard; manual auxiliary function optional

Cylinders

Type	heat-treated, chrome-plated, polished rods; hardened-steel (replaceable bushings) pivot pins		
	<i>Bore</i>	<i>Rod Diameter</i>	<i>Stroke</i>
Loader Boom (2)	3.15 in. (80 mm)	1.97 in. (50 mm)	31.10 in. (790 mm)
Loader Bucket (1)	3.54 in. (90 mm)	1.97 in. (50 mm)	29.29 in. (744 mm)
Backhoe Boom (1)	4.72 in. (120 mm)	2.20 in. (56 mm)	31.30 in. (795 mm)
Backhoe Crowd (1)	4.53 in. (115 mm)	2.48 in. (63 mm)	23.72 in. (603 mm)
Backhoe Bucket (1)	3.54 in. (90 mm)	2.20 in. (56 mm)	31.89 in. (810 mm)
Heavy-Duty Option (1)	3.94 in. (100 mm)	2.48 in. (63 mm)	31.89 in. (810 mm)
Backhoe Swing (2)	3.54 in. (90 mm)	1.97 in. (50 mm)	10.94 in. (278 mm)
Backhoe Extendable Dipperstick (1)	2.76 in. (70 mm)	1.57 in. (40 mm)	42.01 in. (1067 mm)
Backhoe Stabilizer			
Standard (2)	3.54 in. (90 mm)	1.97 in. (50 mm)	19.69 in. (500 mm)
Longer Optional (2)	3.94 in. (100 mm)	1.97 in. (50 mm)	19.69 in. (500 mm)
Non-Powered Axle (1)	2.76 in. (70 mm)	1.65 in. (42 mm)	8.39 in. (213 mm)
Mechanical-Front-Wheel Drive (1)	2.64 in. (67 mm)	1.65 in. (42 mm)	8.27 in. (210 mm)

Electrical

Voltage	12 volt
Alternator Rating	90 amp

Operator Station

Type (SAE J1040)	canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof
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Overall Vehicle

Mainframe	unitized one-piece construction
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Tires

	<i>Front</i>	<i>Rear</i>
Non-Powered Front Axle	11L-16 SL F-3 (12)	19.5L-24 R-4 (10)
Mechanical-Front-Wheel Drive	12.5/80-18 I-3 (10)	19.5L-24 R-4 (10)
	340/80R18 XMCL	500/70R24 XMCL
	12.5/80-18 I-3 (10)	16.9-28 R-4 (10)
	12.5/80-18 I-3 (10)	21L-24 R-4 (10)

Serviceability

Hydraulic Oil Filter, Spin-On Enclosed Replaceable Element, Vertically Mounted	6-micron filtration / 1,000 service hours
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Refill Capacities

Cooling System	22 qt. (21 L)
Rear Axle	19 qt. (18 L)
Engine Oil (including vertical spin-on filter)	14 qt. (13 L)
Torque Converter and Transmission	16 qt. (15 L)
Fuel Tank (with ground-level fueling)	41 gal. (155 L)
Hydraulic System	24 gal. (91 L)
Hydraulic Reservoir	10.2 gal. (39 L)
Mechanical-Front-Wheel-Drive Housing	
Axle	7 qt. (6.5 L)
Planetary (each)	1 qt. (1 L)

Operating Weights

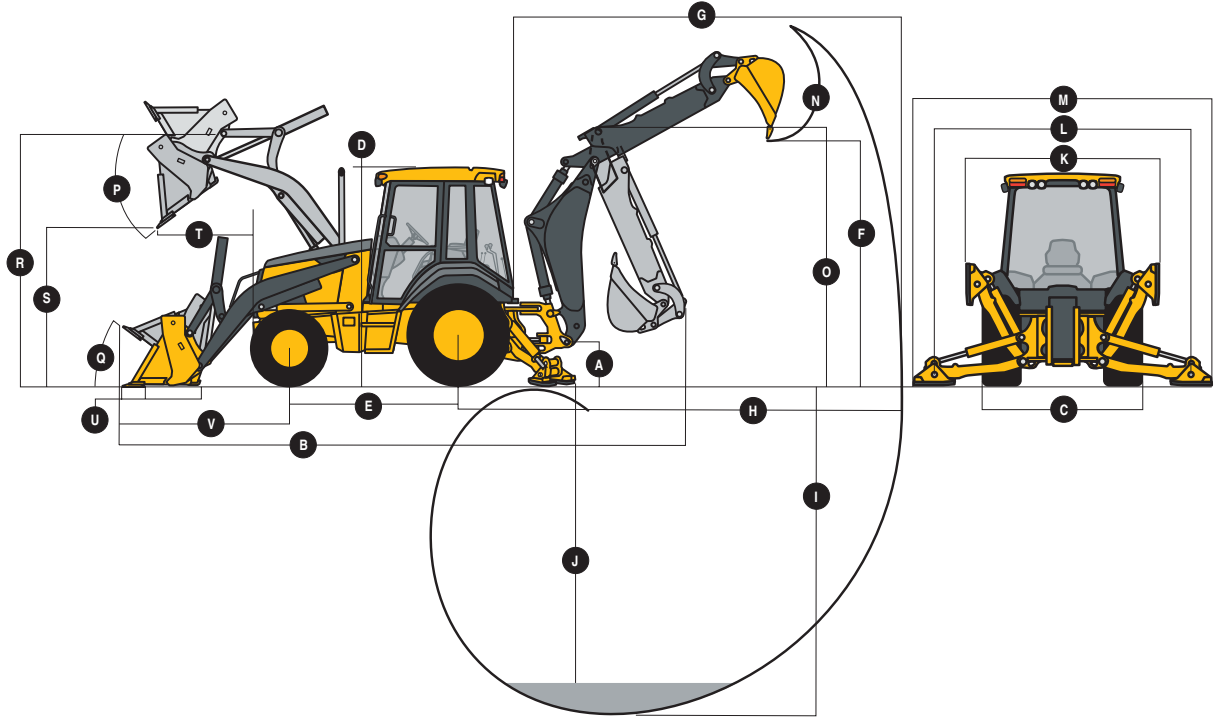
With Full Fuel Tank, 175-lb. (79 kg) Operator, and Standard Equipment	14,430 lb. (6544 kg)
Typical with Cab, Mechanical-Front-Wheel Drive, Extendable Dipperstick, and 1,000-lb. (454 kg) Counterweight	16,960 lb. (7691 kg)

Optional Components

Cab	580 lb. (263 kg)
Mechanical-Front-Wheel Drive with Tires	485 lb. (220 kg)
Extendable Dipperstick	490 lb. (222 kg)
Front Loader Coupler	630 lb. (286 kg)
Backhoe Bucket Coupler	138 lb. (63 kg)

Overall Dimensions 310SJ

- A** Ground Clearance (minimum) 13 in. (330 mm)
- B** Overall Length (transport) 23 ft. 6 in. (7.16 m)
- C** Width over Tires 7 ft. 2 in. (2.18 m)
- D** Height to Top of ROPS/Cab 9 ft. 2 in. (2.79 m)
- E** Length from Axle to Axle
 - Non-Powered Front Axle 6 ft. 11 in. (2.11 m)
 - Mechanical-Front-Wheel-Drive Axle 7 ft. 0 in. (2.14 m)



Backhoe Dimensions / Performance 310SJ

Backhoe specifications are with 24-in. x 7.5-cu.-ft. (610 mm x 0.21 m³) bucket

- Bucket Range 12–30 in. (305–762 mm)
- Digging Force
 - Bucket Cylinder 11,990 lb. (53.3 kN)
 - With Heavy-Duty Cylinder Option 15,236 lb. (67.8 kN)
 - Crowd Cylinder 8,090 lb. (36.0 kN)
- Swing Arc 180 deg.
- Operator Control two levers

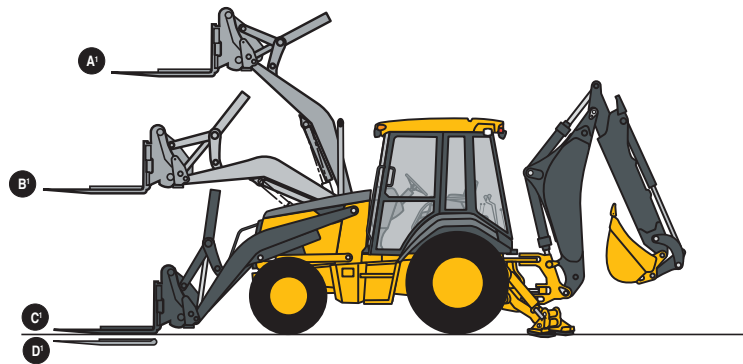
	<i>With Standard Backhoe</i>	<i>With Optional Extendable Dipperstick</i>	
		<i>Retracted</i>	<i>Extended</i>
F Loading Height (truck loading position)	11 ft. 3 in. (3.43 m)	11 ft. 3 in. (3.43 m)	14 ft. 1 in. (4.29 m)
G Reach from Center of Swing Pivot	18 ft. 3 in. (5.56 m)	18 ft. 7 in. (5.66 m)	21 ft. 11 in. (6.68 m)
H Reach from Center of Rear Axle	21 ft. 9 in. (6.63 m)	22 ft. 1 in. (6.73 m)	25 ft. 4 in. (7.72 m)
I Digging Depth (SAE maximum)	14 ft. 6 in. (4.42 m)	14 ft. 11 in. (4.55 m)	18 ft. 5 in. (5.61 m)
J Digging Depth (SAE)			
2-ft. (610 mm) Flat Bottom	14 ft. 4 in. (4.37 m)	14 ft. 9 in. (4.50 m)	18 ft. 3 in. (5.56 m)
8-ft. (2440 mm) Flat Bottom	13 ft. 4 in. (4.06 m)	13 ft. 9 in. (4.19 m)	17 ft. 6 in. (5.33 m)
K 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)
L Stabilizer Spread (operating)			
Standard Stabilizers	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
Long Stabilizers	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)
M Stabilizer Overall Width (operating)			
Standard Stabilizers	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)
Long Stabilizers	13 ft. 3 in. (4.03 m)	13 ft. 3 in. (4.03 m)	13 ft. 3 in. (4.03 m)
N Bucket Rotation	190 deg.	190 deg.	190 deg.
O Transport Height	11 ft. 6 in. (3.51 m)	11 ft. 5 in. (3.48 m)	11 ft. 5 in. (3.48 m)

Loader Dimensions / Performance 310SJ

P Bucket Dump Angle (maximum)	45 deg.					
Q Rollback Angle at Ground Level	40 deg.					
Bucket Capacity	<i>Heavy-duty</i>	<i>Heavy-duty</i>	<i>Heavy-duty long lip</i>	<i>Heavy-duty</i>	<i>Multipurpose</i>	<i>Multipurpose</i>
	1.00 cu. yd. (0.77 m ³)	1.12 cu. yd. (0.86 m ³)	1.25 cu. yd. (0.96 m ³)	1.31 cu. yd. (1.00 m ³)	1.25 cu. yd. (0.96 m ³)	1.31 cu. yd. (1.00 m ³)
Width	86 in. (2184 mm)	86 in. (2184 mm)	86 in. (2184 mm)	92 in. (2337 mm)	86 in. (2184 mm)	92 in. (2337 mm)
Weight	800 lb. (363 kg)	860 lb. (390 kg)	892 lb. (405 kg)	1,148 lb. (521 kg)	1,750 lb. (795 kg)	1,800 lb. (817 kg)
Breakout Force	11,160 lb. (49.6 kN)	11,051 lb. (49.2 kN)	10,210 lb. (45.4 kN)	10,300 lb. (45.8 kN)	9,700 lb. (43.1 kN)	9,650 lb. (42.9 kN)
Lift Capacity (full height)	7,419 lb. (3368 kg)	7,353 lb. (3338 kg)	7,340 lb. (3332 kg)	7,200 lb. (3269 kg)	6,700 lb. (3042 kg)	6,600 lb. (2996 kg)
R Height to Bucket Hinge Pin (maximum)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)
S Dump Clearance (bucket at 45 deg.)	8 ft. 10 in. (2.69 m)	8 ft. 10 in. (2.69 m)	8 ft. 2 in. (2.48 m)	8 ft. 8 in. (2.64 m)	8 ft. 7 in. (2.62 m)	8 ft. 7 in. (2.62 m)
T Reach at Full Height (bucket at 45 deg.)	30.9 in. (785 mm)	30.2 in. (767 mm)	35.9 in. (911 mm)	30.1 in. (765 mm)	32.2 in. (818 mm)	32.2 in. (818 mm)
U Digging Depth Below Ground (bucket level)	6.3 in. (160 mm)	6.9 in. (175 mm)	5.8 in. (147 mm)	8.1 in. (206 mm)	7.3 in. (185 mm)	7.3 in. (185 mm)
V Length From Front Axle Centerline to						
	Bucket Cutting Edge	6 ft. 8 in. (2.03 m)	6 ft. 8 in. (2.03 m)	7 ft. 2 in. (2.18 m)	6 ft. 8 in. (2.03 m)	7 ft. 3 in. (2.20 m)

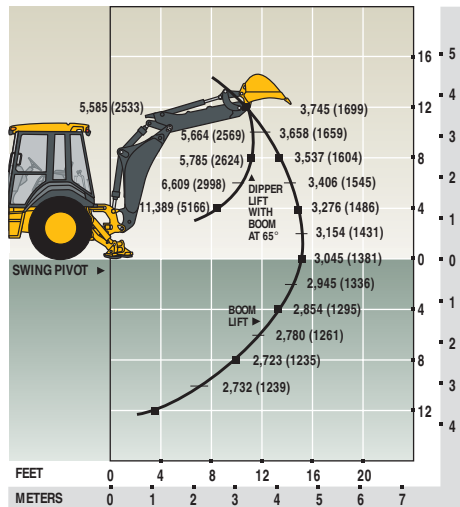
Lift Capacity with Quick-Coupler / Forks

- A** Maximum Height 4,570 lb. (2073 kg)
- B** Maximum Reach 6,971 lb. (3162 kg)
- C** At Ground Line 9,138 lb. (4145 kg)
- D** Below Ground Line 8.3 in. (211 mm)

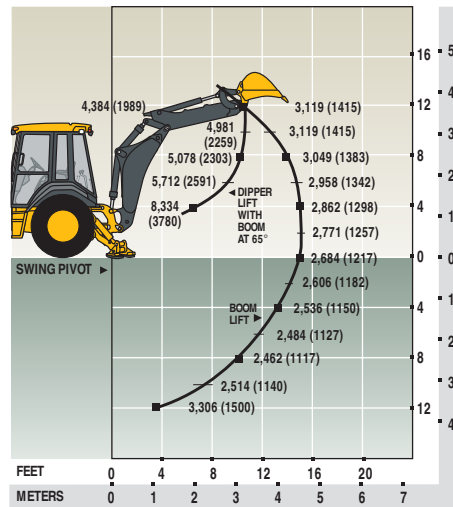


Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

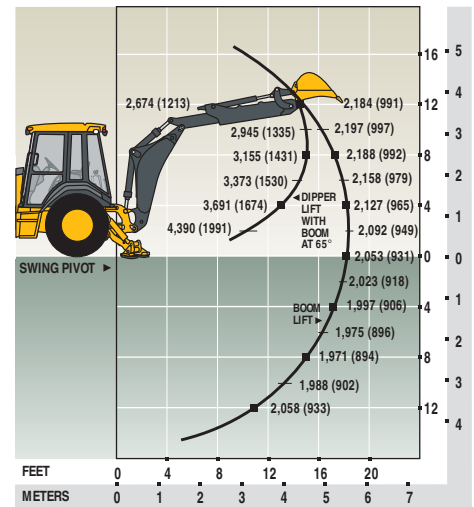
310SJ Backhoe with Standard Dipperstick



310SJ Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Retracted



310SJ Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Extended



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

310SJ with Total Machine Control™

310SJ TC

See page 20 for Engine, Cooling, and Powertrain information.

Hydraulics

310SJ TMC

Main Pump	pressure-compensated load-sensing (PCLS) axial-piston pump
Pump Flow @ 2,200 rpm	
Backhoe	42 gpm (159 L/min.)
Loader	42 gpm (159 L/min.)
System Relief Pressure	
Backhoe	3,625 psi (24 993 kPa)
Loader	3,625 psi (24 993 kPa)
Backhoe Controls	TMC electrohydraulic controls standard, with joysticks mounted in the seat armrests
Loader Controls	TMC electrohydraulic controls standard, with joysticks mounted in the seat armrests

Cylinders

Type	heat-treated, chrome-plated, polished rods; hardened-steel (replaceable bushings) pivot pins		
	<i>Bore</i>	<i>Rod Diameter</i>	<i>Stroke</i>
Loader Boom (2)	3.15 in. (80 mm)	1.97 in. (50 mm)	31.10 in. (790 mm)
Tool-Carrier Option (2)	3.54 in. (90 mm)	1.97 in. (50 mm)	26.49 in. (672.9 mm)
Loader Bucket (1)	3.54 in. (90 mm)	1.97 in. (50 mm)	29.29 in. (744 mm)
Tool-Carrier Option (1)	3.94 in. (100 mm)	2.20 in. (56 mm)	28.73 in. (729.8 mm)
Backhoe Boom (1)	4.72 in. (120 mm)	2.20 in. (56 mm)	31.30 in. (795 mm)
Backhoe Crowd (1)	4.53 in. (115 mm)	2.48 in. (63 mm)	23.72 in. (603 mm)
Backhoe Bucket (1)	3.94 in. (100 mm)	2.48 in. (63 mm)	31.89 in. (810 mm)
Backhoe Swing (2)	3.54 in. (90 mm)	1.97 in. (50 mm)	10.94 in. (278 mm)
Backhoe Extendable Dipperstick (1)	2.76 in. (70 mm)	1.57 in. (40 mm)	42.01 in. (1067 mm)
Backhoe Stabilizer			
Standard (2)	3.54 in. (90 mm)	1.97 in. (50 mm)	19.69 in. (500 mm)
Longer Optional (2)	3.94 in. (100 mm)	1.97 in. (50 mm)	19.69 in. (500 mm)
Non-Powered Axle (1)	2.76 in. (70 mm)	1.65 in. (42 mm)	8.39 in. (213 mm)
Mechanical-Front-Wheel Drive (1)	2.64 in. (67 mm)	1.65 in. (42 mm)	8.27 in. (210 mm)

Electrical

Voltage	12 volt
Alternator Rating	120 amp

Operator Station

Type (SAE J1040)	cab, isolation mounted, ROPS/FOPS, left/right access, with molded roof
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Overall Vehicle

Mainframe	unitized one-piece construction
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Tires

	<i>Front</i>	<i>Rear</i>
Non-Powered Front Axle	11L-16 SL F-3 (12)	19.5L-24 R-4 (10)
Mechanical-Front-Wheel Drive	12.5/80-18 I-3 (10)	19.5L-24 R-4 (10)
	340/80R18 XMCL	500/70R24 XMCL
	12.5/80-18 I-3 (10)	16.9-28 R-4 (10)
	12.5/80-18 I-3 (10)	21L-24 R-4 (10)

Serviceability

Hydraulic Oil Filter, Spin-On Enclosed Replaceable Element, Vertically Mounted	6-micron filtration / 1,000 service hours
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Refill Capacities

Cooling System	22 qt. (21 L)
Rear Axle	19 qt. (18 L)
Engine Oil (including vertical spin-on filter)	14 qt. (13 L)
Torque Converter and Transmission	16 qt. (15 L)
Fuel Tank (with ground-level fueling)	41 gal. (155 L)
Hydraulic System	24 gal. (91 L)
Hydraulic Reservoir	10.2 gal. (39 L)
Mechanical-Front-Wheel-Drive Housing	
Axle	7 qt. (6.5 L)
Planetary (each)	1 qt. (1 L)

Operating Weights

310SJ TMC

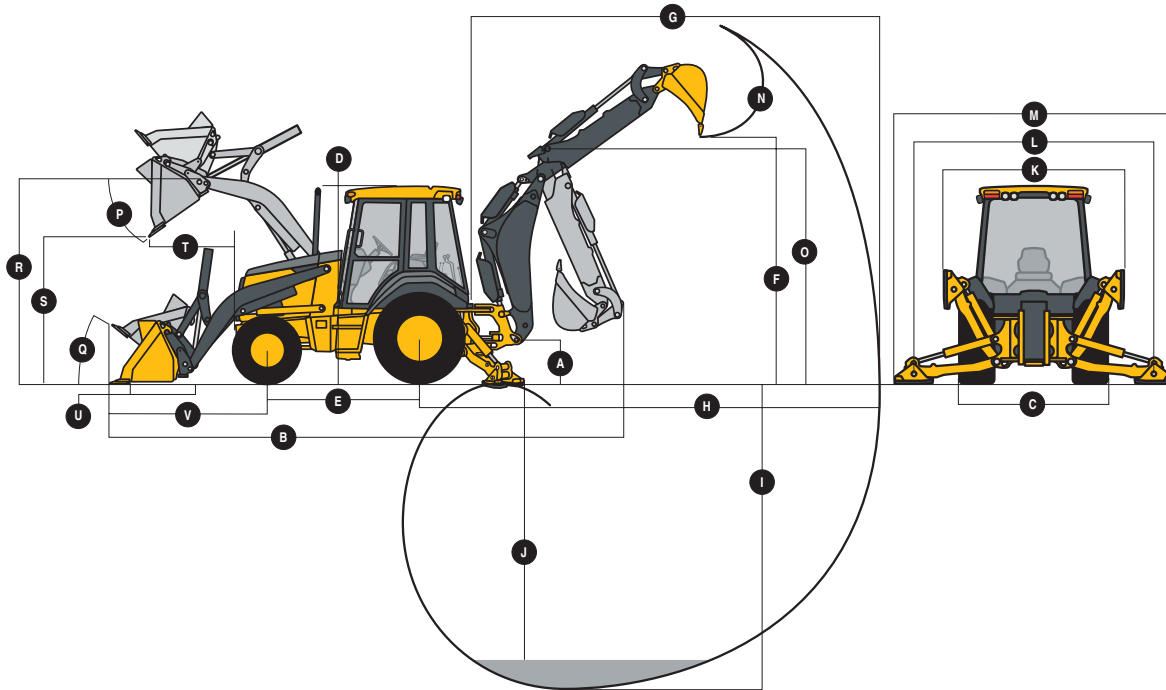
Typical with Cab, Extendable Dipperstick,
 1,250-lb. (567 kg) Counterweight, Full
 Fuel Tank, 175-lb. (79 kg) Operator, and
 Standard Equipment 17,937 lb. (8134 kg)

Optional Components

Tool Carrier (includes mechanical-front-
 wheel drive) 1,062 lb. (482 kg)
 Backhoe Bucket Coupler 138 lb. (63 kg)

Overall Dimensions

A Ground Clearance (minimum)	13 in. (330 mm)	E Length from Axle to Axle	
B Overall Length (transport)	23 ft. 6 in. (7.16 m)	Non-Powered Front Axle	6 ft. 11 in. (2.11 m)
C Width over Tires	7 ft. 2 in. (2.18 m)	Mechanical-Front-Wheel-Drive Axle	7 ft. 0 in. (2.14 m)
D Height to Top of ROPS/Cab	9 ft. 2 in. (2.79 m)		



Backhoe Dimensions / Performance

310SJ TMC

Backhoe specifications are with 24-in. x
 7.5-cu.-ft. (610 mm x 0.21 m³) bucket

Bucket Range 12–30 in. (305–762 mm)
 Digging Force
 Bucket Cylinder 15,236 lb. (67.8 kN)
 Crowd Cylinder 8,090 lb. (36.0 kN)
 Swing Arc 180 deg.
 Operator Control two joysticks

With Extendable Dipperstick
Retracted *Extended*

F Loading Height (truck loading position)	11 ft. 3 in. (3.43 m)	14 ft. 1 in. (4.29 m)
G Reach from Center of Swing Pivot	18 ft. 7 in. (5.66 m)	21 ft. 11 in. (6.68 m)
H Reach from Center of Rear Axle	22 ft. 1 in. (6.73 m)	25 ft. 4 in. (7.72 m)
I Digging Depth (SAE maximum)	14 ft. 11 in. (4.55 m)	18 ft. 5 in. (5.61 m)
J Digging Depth (SAE)		
2-ft. (610 mm) Flat Bottom	14 ft. 9 in. (4.50 m)	18 ft. 3 in. (5.56 m)
8-ft. (2440 mm) Flat Bottom	13 ft. 9 in. (4.19 m)	17 ft. 6 in. (5.33 m)
K Stabilizer Width (transport with ROPS)	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)
L Stabilizer Spread (operating)		
Standard Stabilizers	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
Long Stabilizers	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)
M Stabilizer Overall Width (operating)		
Standard Stabilizers	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)
Long Stabilizers	13 ft. 3 in. (4.03 m)	13 ft. 3 in. (4.03 m)
N Bucket Rotation	190 deg.	190 deg.
O Transport Height	11 ft. 5 in. (3.48 m)	11 ft. 5 in. (3.48 m)

Loader Dimensions / Performance

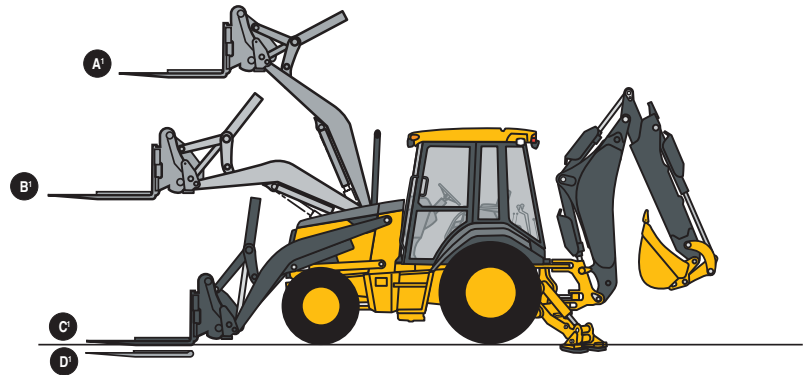
(see page 25 for line art)

310SJ TMC

P Bucket Dump Angle (maximum)	45 deg.					
Q Rollback Angle at Ground Level	40 deg.					
Bucket Capacity	<i>Heavy-duty</i> 1.00 cu. yd. (0.77 m ³)	<i>Heavy-duty</i> 1.12 cu. yd. (0.86 m ³)	<i>Heavy-duty long lip</i> 1.25 cu. yd. (0.96 m ³)	<i>Heavy-duty</i> 1.31 cu. yd. (1.00 m ³)	<i>Multipurpose</i> 1.25 cu. yd. (0.96 m ³)	<i>Multipurpose</i> 1.31 cu. yd. (1.00 m ³)
Width	86 in. (2184 mm)	86 in. (2184 mm)	86 in. (2184 mm)	92 in. (2337 mm)	86 in. (2184 mm)	92 in. (2337 mm)
R Height to Bucket Hinge Pin (maximum)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)
Standard Loader Option						
Weight	800 lb. (363 kg)	860 lb. (390 kg)	892 lb. (405 kg)	1,148 lb. (521 kg)	1,750 lb. (795 kg)	1,800 lb. (817 kg)
Breakout Force	11,160 lb. (49.6 kN)	11,051 lb. (49.2 kN)	10,210 lb. (45.4 kN)	10,300 lb. (45.8 kN)	9,700 lb. (43.1 kN)	9,650 lb. (42.9 kN)
Lift Capacity (full height)	7,419 lb. (3368 kg)	7,353 lb. (3338 kg)	7,340 lb. (3332 kg)	7,200 lb. (3269 kg)	6,700 lb. (3042 kg)	6,600 lb. (2996 kg)
S Dump Clearance (bucket at 45 deg.)	8 ft. 10 in. (2.69 m)	8 ft. 10 in. (2.69 m)	8 ft. 2 in. (2.48 m)	8 ft. 8 in. (2.64 m)	8 ft. 7 in. (2.62 m)	8 ft. 7 in. (2.62 m)
T Reach at Full Height (bucket at 45 deg.)	30.9 in. (785 mm)	30.2 in. (767 mm)	35.9 in. (911 mm)	30.1 in. (765 mm)	32.2 in. (818 mm)	32.2 in. (818 mm)
U Digging Depth Below Ground (bucket level)	6.3 in. (160 mm)	6.9 in. (175 mm)	5.8 in. (147 mm)	8.1 in. (206 mm)	7.3 in. (185 mm)	7.3 in. (185 mm)
V Length From Front Axle Centerline to Bucket Cutting Edge	6 ft. 8 in. (2.03 m)	6 ft. 8 in. (2.03 m)	7 ft. 2 in. (2.18 m)	6 ft. 8 in. (2.03 m)	7 ft. 3 in. (2.20 m)	7 ft. 1 in. (2.15 m)
Tool-Carrier Loader Option						
Weight	835 lb. (379 kg)	873 lb. (396 kg)	860 lb. (390 kg)	1,085 lb. (493 kg)	1,687 lb. (766 kg)	1,737 lb. (789 kg)
Breakout Force	11,287 lb. (50.2 kN)	11,900 lb. (52.9 kN)	10,300 lb. (45.8 kN)	11,450 lb. (50.9 kN)	9,740 lb. (43.3 kN)	9,680 lb. (43.1 kN)
Lift Capacity (full height)	7,026 lb. (3190 kg)	7,200 lb. (3269 kg)	6,625 lb. (3008 kg)	7,215 lb. (3276 kg)	5,950 lb. (2701 kg)	5,850 lb. (2656 kg)
S Dump Clearance (bucket at 45 deg.)	8 ft. 6 in. (2.58 m)	8 ft. 7 in. (2.61 m)	8 ft. 3 in. (2.51 m)	8 ft. 6 in. (2.59 m)	8 ft. 2 in. (2.50 m)	8 ft. 2 in. (2.50 m)
T Reach at Full Height (bucket at 45 deg.)	30.6 in. (777 mm)	29.3 in. (744 mm)	34.2 in. (868 mm)	30.0 in. (762 mm)	32.9 in. (836 mm)	32.9 in. (836 mm)
U Digging Depth Below Ground (bucket level)	5.5 in. (140 mm)	5.5 in. (140 mm)	4.8 in. (122 mm)	5.5 in. (140 mm)	6.0 in. (152 mm)	6.0 in. (152 mm)
V Length From Front Axle Centerline to Bucket Cutting Edge	7 ft. 1 in. (2.15 m)	7 ft. 1 in. (2.15 m)	7 ft. 7 in. (2.30 m)	7 ft. 1 in. (2.15 m)	7 ft. 7 in. (2.32 m)	7 ft. 5 in. (2.27 m)

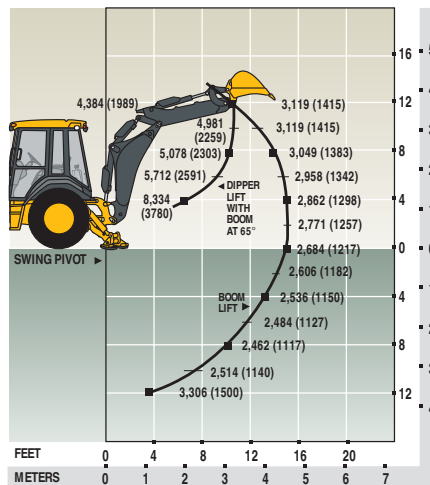
Lift Capacity with Quick-Coupler / Forks

A' Maximum Height	4,875 lb. (2211 kg)
B' Maximum Reach	7,580 lb. (3438 kg)
C' At Ground Line	9,700 lb. (4400 kg)
D' Below Ground Line	8.3 in. (211 mm)

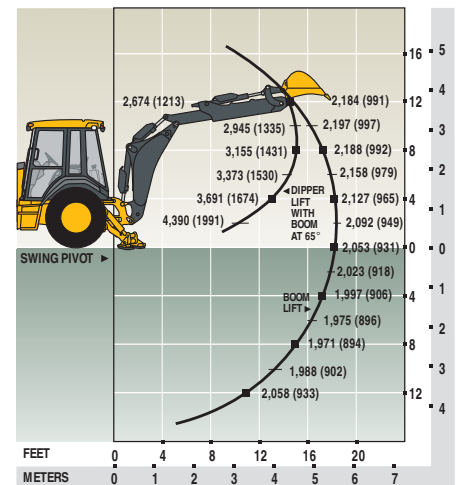


Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

310SJ TMC Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Retracted



310SJ TMC Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Extended



410J

Engine

410J

Manufacturer and Model	John Deere PowerTech™ 4045T turbocharged, standard
Non-Road Emission Standards	certified to EPA Tier 2 emissions
Displacement	276 cu. in. (4.5 L)
Net Peak Power (ISO9249)	96 hp (72 kW) @ 2,100 rpm
Net Peak Torque (ISO9249)	278 lb.-ft. (378 Nm) @ 1,500 rpm
Net Torque Rise	26%
Lubrication	pressure system with spin-on filter and cooler
Air Cleaner	dual-stage dry type with safety element and evacuator valve

Cooling

Fan Type	suction
Engine Coolant Rating	-34° F (-37° C)
Engine Oil Cooler	oil to water

Powertrain

Transmission	4-speed, helical-cut gears, full powershifted with hydraulic reverser standard; electric clutch cutoff on gearshift and loader levers
Torque Converter	single stage, dual phase with 2.53:1 stall ratio; 11 in. (280 mm)

Maximum Travel Speeds (with 21L-24

rear tires)	Forward	Reverse
Gear 1	3.7 mph (5.9 km/h)	4.6 mph (7.4 km/h)
Gear 2	6.7 mph (10.8 km/h)	8.5 mph (13.6 km/h)
Gear 3	13.6 mph (21.9 km/h)	13.4 mph (21.6 km/h)
Gear 4	23.2 mph (37.4 km/h)	N/A

Axles

Axle Oscillations, Stop to Stop (both axles) 22 deg.

Axle Ratings	Mechanical- front-wheel drive	Non-powered front axle (optional)	Rear
Static	26,455 lb. (12 000 kg)	39,683 lb. (18 000 kg)	28,660 lb. (13 000 kg)
Dynamic	13,228 lb. (6000 kg)	15,873 lb. (7200 kg)	15,432 lb. (7000 kg)
Ultimate	62,170 lb. (28 200 kg)	72,642 lb. (32 950 kg)	67,461 lb. (30 600 kg)

Differentials automatic, traction-control limited slip (mechanical-front-wheel-drive) / electric, foot-actuated, 100% hydraulically locking (rear)

Steering (ISO5010) hydrostatic power and emergency steering

Axle	Mechanical- front-wheel drive	Non-powered front axle (optional)
Curb-Turning Radius		
With Brakes	11 ft. 9 in. (3.58 m)	11 ft. 4 in. (3.44 m)
Without Brakes	13 ft. 5 in. (4.08 m)	12 ft. 11 in. (3.94 m)
Bucket Clearance Circle		
With Brakes	33 ft. 2 in. (10.11 m)	32 ft. 5 in. (9.89 m)
Without Brakes	36 ft. 3 in. (11.05 m)	35 ft. 4 in. (10.76 m)
Steering Wheel Turns (lock to lock, flow amplified)	2.6 to 3.6	3.1 to 4.4

Final Drives heavy-duty, outboard planetary final drives distribute shock loads over 4 gears

Brakes (SAE J1473)

Service	power assisted, hydraulic wet disc, mounted inboard, self-adjusting and self-equalizing
Parking	spring-applied, hydraulically released, wet, multi disc, independent of service brakes with electric switch control

Hydraulics

Main Pump	pressure-compensated load sensing (PCLS), axial piston
Pump Flow @ 2,200 rpm	
Backhoe	42 gpm (159 L/min.)
Loader	42 gpm (159 L/min.)

Hydraulics (continued)**410J**

System Relief Pressure	
Backhoe	3,625 psi (24 993 kPa)
Loader	3,625 psi (24 993 kPa)
Backhoe Controls	two-lever manual standard; pilot controls with pattern select, three-lever manual controls with foot swing, and manual and/or electric auxiliary functions optional
Loader Controls	single-lever control with electric clutch cutoff switch standard; manual auxiliary function optional

Cylinders

Type	heat-treated, chrome-plated, polished rods; hardened-steel (replaceable bushings) pivot pins		
	<i>Bore</i>	<i>Rod Diameter</i>	<i>Stroke</i>
Loader Boom (2)	3.15 in. (80 mm)	1.97 in. (50 mm)	31.10 in. (790 mm)
Loader Bucket (1)	3.54 in. (90 mm)	1.97 in. (50 mm)	29.29 in. (744 mm)
Backhoe Boom (1)	4.92 in. (125 mm)	2.48 in. (63 mm)	35.31 in. (897 mm)
Backhoe Crowd (1)	4.53 in. (115 mm)	2.48 in. (63 mm)	27.49 in. (698 mm)
Backhoe Bucket (1)	3.94 in. (100 mm)	2.48 in. (63 mm)	31.89 in. (810 mm)
Backhoe Swing (2)	3.54 in. (90 mm)	1.97 in. (50 mm)	10.94 in. (278 mm)
Backhoe Extendable Dipperstick (1)	2.76 in. (70 mm)	1.57 in. (40 mm)	47.78 in. (1214 mm)
Backhoe Stabilizer, Standard (2)	3.94 in. (100 mm)	1.97 in. (50 mm)	19.69 in. (500 mm)
Non-Powered Axle (1)	2.76 in. (70 mm)	1.65 in. (42 mm)	8.39 in. (213 mm)
Mechanical-Front-Wheel Drive (1)	2.64 in. (67 mm)	1.65 in. (42 mm)	8.27 in. (210 mm)

Electrical

Voltage	12 volt
Alternator Rating	90 amp

Operator Station

Type (SAE J1040)	canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof
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Overall Vehicle

Mainframe	unitized one-piece construction
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Tires

	<i>Front</i>	<i>Rear</i>
Non-Powered Front Axle	11L-16 SL F-3 (12) 14.5/75-16.1 SL F-3 (10)	19.5L-24 R-4 (10) 21L-24 R-4 (10)
Mechanical-Front-Wheel Drive	12.5/80-18 I-3 (10) 340/80R18 XMCL 12.5/80-18 I-3 (10) 12.5/80-18 I-3 (10)	19.5L-24 R-4 (10) 500/70R24 XMCL 16.9-28 R-4 (10) 21L-24 R-4 (10)

Serviceability

Hydraulic Oil Filter, Spin-On Enclosed Replaceable Element, Vertically Mounted	6-micron filtration / 1,000 service hours
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Refill Capacities

Cooling System	22 qt. (21 L)
Rear Axle	19 qt. (18 L)
Engine Oil (including vertical spin-on filter)	14 qt. (13 L)
Torque Converter and Transmission	16 qt. (15 L)
Fuel Tank (with ground-level fueling)	41 gal. (155 L)
Hydraulic System	25 gal. (95 L)
Hydraulic Reservoir	10.2 gal. (39 L)
Mechanical-Front-Wheel-Drive Housing	
Axle	7 qt. (6.5 L)
Planetary (each)	1 qt. (1 L)

Operating Weights

With Full Fuel Tank, 175-lb. (79 kg) Operator, and Standard Equipment	15,000 lb. (6803 kg)
Typical with Cab, Mechanical-Front-Wheel Drive, Extendable Dipperstick, and 1,000-lb. (454 kg) Counterweight	18,500 lb. (8390 kg)

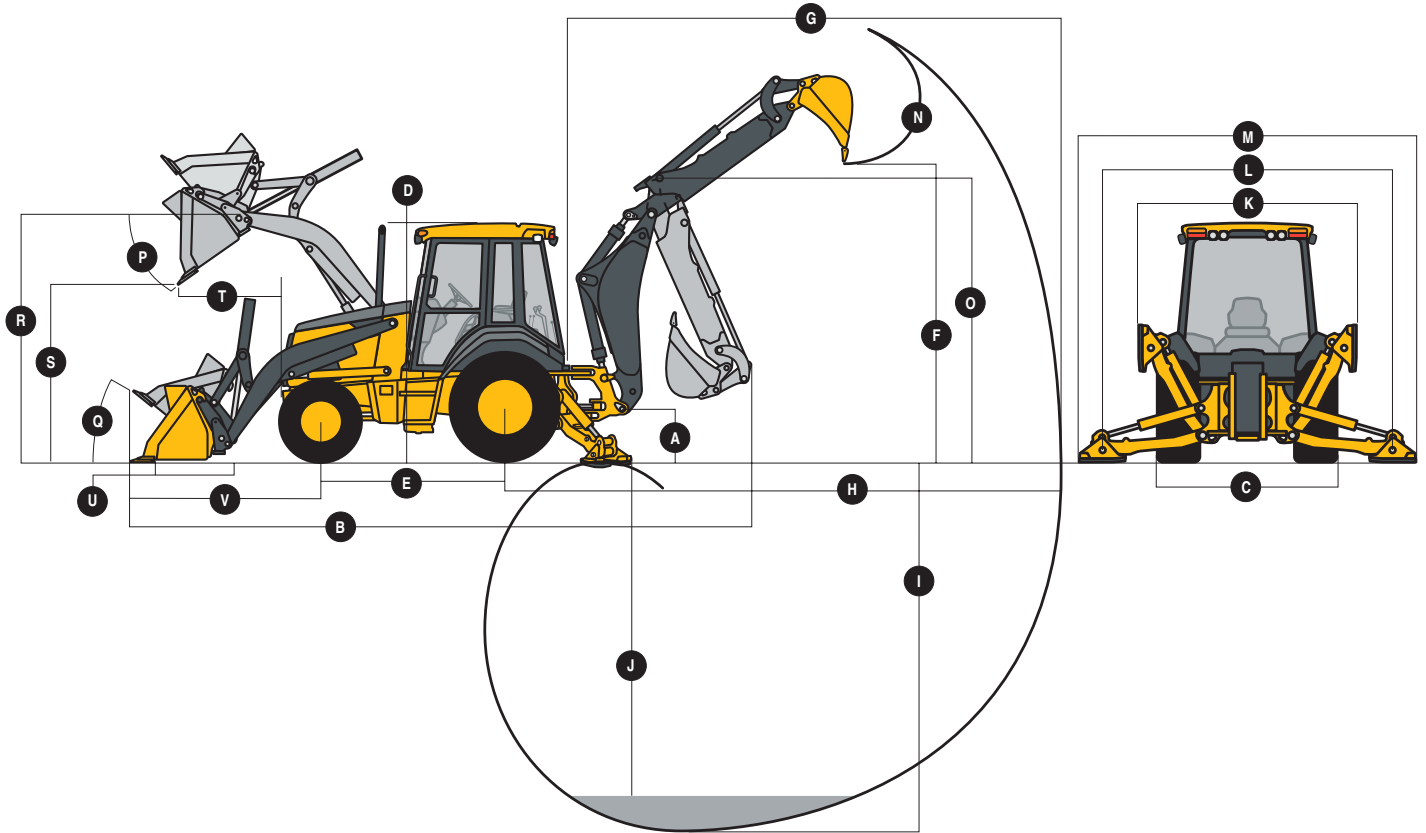
Optional Components

Cab	580 lb. (263 kg)
Mechanical-Front-Wheel Drive with Tires	485 lb. (220 kg)
Extendable Dipperstick	638 lb. (289 kg)
Front Loader Coupler	630 lb. (286 kg)
Backhoe Bucket Coupler	138 lb. (63 kg)

Overall Dimensions

410J

- A** Ground Clearance (minimum) 14 in. (356 mm)
- B** Overall Length (transport) 23 ft. 11 in. (7.29 m)
- C** Width over Tires 7 ft. 2 in. (2.18 m)
- D** Height to Top of ROPS/Cab 9 ft. 3 in. (2.82 m)
- E** Length from Axle to Axle
 - Non-Powered Front Axle 6 ft. 11 in. (2.11 m)
 - Mechanical-Front-Wheel-Drive Axle 7 ft. 0 in. (2.14 m)



Backhoe Dimensions / Performance

410J

Backhoe specifications are with 24-in. x 7.5-cu.-ft. (610 mm x 0.21 m³) bucket

- Bucket Range 12–30 in. (305–762 mm)
- Digging Force
 - Bucket Cylinder 14,801 lb. (65.8 kN)
 - Crowd Cylinder 8,741 lb. (38.9 kN)
- Swing Arc 180 deg.
- Operator Control two levers

	<i>With Standard Backhoe</i>	<i>With Optional Extendable Dipperstick</i>	
		<i>Retracted</i>	<i>Extended</i>
F Loading Height (truck loading position)	12 ft. 6 in. (3.81 m)	12 ft. 8 in. (3.86 m)	15 ft. 6 in. (4.72 m)
G Reach from Center of Swing Pivot	19 ft. 8 in. (5.99 m)	19 ft. 11 in. (6.07 m)	23 ft. 8 in. (7.21 m)
H Reach from Center of Rear Axle	23 ft. 4 in. (7.11 m)	23 ft. 7 in. (7.19 m)	27 ft. 4 in. (8.33 m)
I Digging Depth (SAE maximum)	15 ft. 10 in. (4.83 m)	16 ft. 1 in. (4.90 m)	20 ft. 0 in. (6.10 m)
J Digging Depth (SAE)			
2-ft. (610 mm) Flat Bottom	15 ft. 8 in. (4.78 m)	15 ft. 11 in. (4.85 m)	19 ft. 11 in. (6.07 m)
8-ft. (2440 mm) Flat Bottom	14 ft. 7 in. (4.45 m)	14 ft. 11 in. (4.55 m)	19 ft. 1 in. (5.82 m)
K Stabilizer Width (transport with ROPS)	7 ft. 7 in. (2.30 m)	7 ft. 7 in. (2.30 m)	7 ft. 7 in. (2.30 m)
L Stabilizer Spread (operating)	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)	11 ft. 4 in. (3.45 m)
M Stabilizer Overall Width (operating)	13 ft. 3 in. (4.03 m)	13 ft. 3 in. (4.03 m)	13 ft. 3 in. (4.03 m)
N Bucket Rotation	190 deg.	190 deg.	190 deg.
O Transport Height	12 ft. 11 in. (3.94 m)	12 ft. 10 in. (3.91 m)	12 ft. 10 in. (3.91 m)

Loader Dimensions / Performance

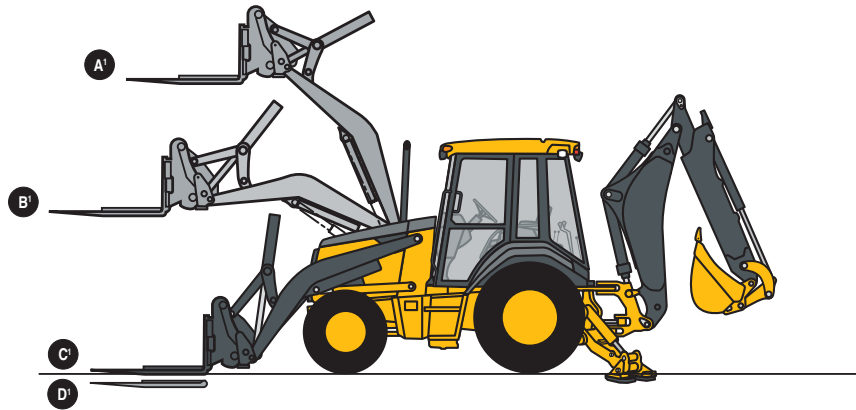
(see page 29 for line art)

410J

P Bucket Dump Angle (maximum)	45 deg.			
Q Rollback Angle at Ground Level	40 deg.			
	<i>Heavy-duty long lip</i>	<i>Heavy-duty</i>	<i>Heavy-duty</i>	<i>Multipurpose</i>
Bucket Capacity	1.25 cu. yd. (0.96 m ³)	1.31 cu. yd. (1.00 m ³)	1.50 cu. yd. (1.15 m ³)	1.31 cu. yd. (1.00 m ³)
Width	86 in. (2184 mm)	92 in. (2337 mm)	94 in. (2338 mm)	92 in. (2337 mm)
Weight	892 lb. (405 kg)	1,148 lb. (521 kg)	1,208 lb. (548 kg)	1,800 lb. (817 kg)
Breakout Force	10,210 lb. (45.4 kN)	10,300 lb. (45.8 kN)	10,170 lb. (45.2 kN)	9,650 lb. (42.9 kN)
Lift Capacity (full height)	7,340 lb. (3332 kg)	7,200 lb. (3269 kg)	7,070 lb. (3210 kg)	6,600 lb. (2996 kg)
R Height to Bucket Hinge Pin (maximum)	11 ft. 0 in. (3.35 m)	11 ft. 0 in. (3.35 m)	11 ft. 0 in. (3.35 m)	11 ft. 0 in. (3.35 m)
S Dump Clearance (bucket at 45 deg.)	8 ft. 4 in. (2.54 m)	8 ft. 10 in. (2.69 m)	8 ft. 9 in. (2.67 m)	8 ft. 7 in. (2.62 m)
T Reach at Full Height (bucket at 45 deg.)	35.5 in. (902 mm)	30.0 in. (762 mm)	31.0 in. (787 mm)	32.2 in. (818 mm)
U Digging Depth Below Ground (bucket level)	4.2 in. (107 mm)	6.7 in. (170 mm)	6.2 in. (157 mm)	7.2 in. (182 mm)
V Length From Front Axle Centerline to				
Bucket Cutting Edge	7 ft. 2 in. (2.18 m)	6 ft. 8 in. (2.03 m)	6 ft. 8 in. (2.03 m)	7 ft. 1 in. (2.15 m)

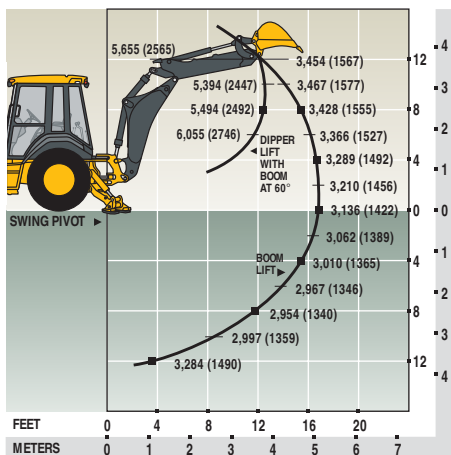
Lift Capacity with Quick-Coupler / Forks

A' Maximum Height	4,570 lb. (2073 kg)
B' Maximum Reach	6,971 lb. (3162 kg)
C' At Ground Line	9,138 lb. (4145 kg)
D' Below Ground Line	8.3 in. (211 mm)

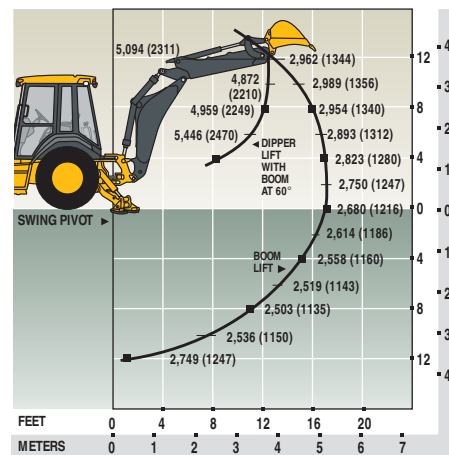


Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

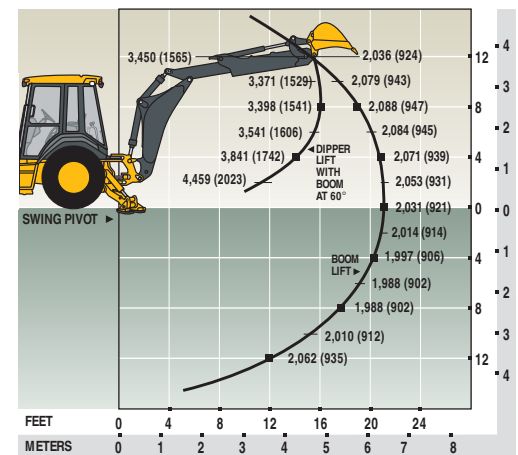
410J Backhoe with Standard Dipperstick



410J Backhoe with 4-ft. (1.22 m) Extendable Dipperstick, Retracted



410J Backhoe with 4-ft. (1.22 m) Extendable Dipperstick, Extended



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

410J with Total Machine Control™

410J TC

See page 27 for Engine, Cooling, and Powertrain information.

Hydraulics

410J TMC

Main Pump	pressure-compensated load-sensing (PCLS) axial-piston pump
Pump Flow @ 2,200 rpm	
Backhoe	42 gpm (159 L/min.)
Loader	42 gpm (159 L/min.)
System Relief Pressure	
Backhoe	3,625 psi (24 993 kPa)
Loader	3,625 psi (24 993 kPa)
Backhoe Controls	TMC electrohydraulic controls standard, with joysticks mounted in the seat armrests
Loader Controls	TMC electrohydraulic controls standard, with joysticks mounted in the seat armrests

Cylinders

Type	heat-treated, chrome-plated, polished rods; hardened-steel (replaceable bushings) pivot pins		
	<i>Bore</i>	<i>Rod Diameter</i>	<i>Stroke</i>
Loader Boom (2)	3.15 in. (80 mm)	1.97 in. (50 mm)	31.10 in. (790 mm)
Tool-Carrier Option (2)	3.54 in. (90 mm)	1.97 in. (50 mm)	26.49 in. (672.9 mm)
Loader Bucket (1)	3.54 in. (90 mm)	1.97 in. (50 mm)	29.29 in. (744 mm)
Tool-Carrier Option (1)	3.94 in. (100 mm)	2.20 in. (56 mm)	28.73 in. (729.8 mm)
Backhoe Boom (1)	4.92 in. (125 mm)	2.48 in. (63 mm)	35.31 in. (897 mm)
Backhoe Crowd (1)	4.53 in. (115 mm)	2.48 in. (63 mm)	27.49 in. (698.2 mm)
Backhoe Bucket (1)	3.94 in. (100 mm)	2.48 in. (63 mm)	31.89 in. (810 mm)
Backhoe Swing (2)	3.54 in. (90 mm)	1.97 in. (50 mm)	10.94 in. (278 mm)
Backhoe Extendable Dipperstick (1)	2.76 in. (70 mm)	1.57 in. (40 mm)	47.78 in. (1214 mm)
Backhoe Stabilizer, Standard (2)	3.94 in. (100 mm)	1.97 in. (50 mm)	19.69 in. (500 mm)
Non-Powered Axle (1)	2.76 in. (70 mm)	1.65 in. (42 mm)	8.39 in. (213 mm)
Mechanical-Front-Wheel Drive (1)	2.64 in. (67 mm)	1.65 in. (42 mm)	8.27 in. (210 mm)

Electrical

Voltage	12 volt
Alternator Rating	120 amp

Operator Station

Type (SAE J1040)	cab, isolation mounted, ROPS/FOPS, left/right access, with molded roof
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Overall Vehicle

Mainframe	unitized one-piece construction
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Tires

	<i>Front</i>	<i>Rear</i>
Non-Powered Front Axle	11L-16 SL F-3 (12) 14.5/75-16.1 SL F-3 (10)	19.5L-24 R-4 (10) 21L-24 R-4 (10)
Mechanical-Front-Wheel Drive	12.5/80-18 I-3 (10) 340/80R18 XMCL 12.5/80-18 I-3 (10) 12.5/80-18 I-3 (10)	19.5L-24 R-4 (10) 500/70R24 XMCL 16.9-28 R-4 (10) 21L-24 R-4 (10)

Serviceability

Hydraulic Oil Filter, Spin-On Enclosed Replaceable Element, Vertically Mounted	6-micron filtration / 1,000 service hours
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Refill Capacities

Cooling System	22 qt. (21 L)
Rear Axle	19 qt. (18 L)
Engine Oil (including vertical spin-on filter)	14 qt. (13 L)
Torque Converter and Transmission	16 qt. (15 L)
Fuel Tank (with ground-level fueling)	41 gal. (155 L)
Hydraulic System	25 gal. (95 L)
Hydraulic Reservoir	10.2 gal. (39 L)
Mechanical-Front-Wheel-Drive Housing	
Axle	7 qt. (6.5 L)
Planetary (each)	1 qt. (1 L)

Operating Weights

410J TMC

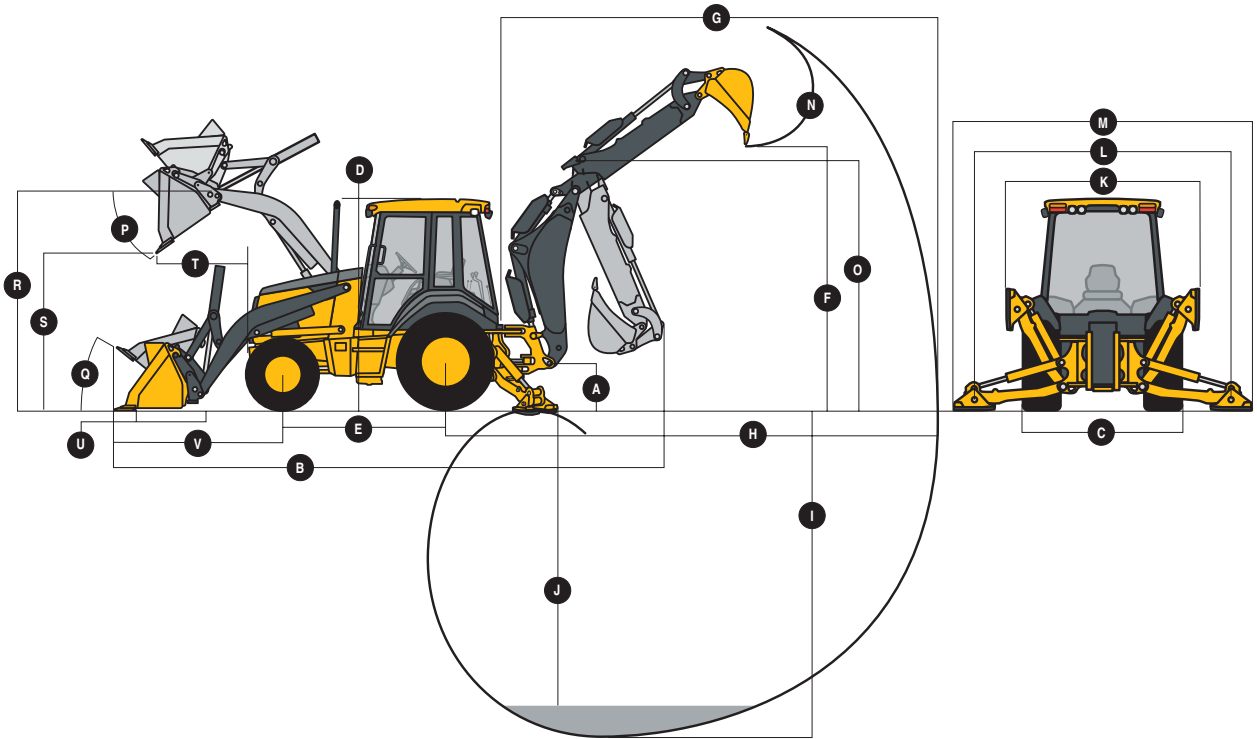
Typical with Cab, Extendable Dipperstick,
 1,250-lb. (567 kg) Counterweight, Full
 Fuel Tank, 175-lb. (79 kg) Operator, and
 Standard Equipment 18,942 lb. (8590 kg)

Optional Components

Tool Carrier (includes mechanical-front-
 wheel drive) 1,062 lb. (482 kg)
 Backhoe Bucket Coupler 138 lb. (63 kg)

Overall Dimensions

- A** Ground Clearance (minimum) 14 in. (356 mm)
- B** Overall Length (transport) 23 ft. 11 in. (7.29 m)
- C** Width over Tires 7 ft. 2 in. (2.18 m)
- D** Height to Top of ROPS/Cab 9 ft. 3 in. (2.82 m)
- E** Length from Axle to Axle
- Non-Powered Front Axle 6 ft. 11 in. (2.11 m)
- Mechanical-Front-Wheel-Drive Axle 7 ft. 0 in. (2.14 m)



Backhoe Dimensions / Performance

410J TMC

Backhoe specifications are with 24-in. x
 7.5-cu.-ft. (610 mm x 0.21 m³) bucket

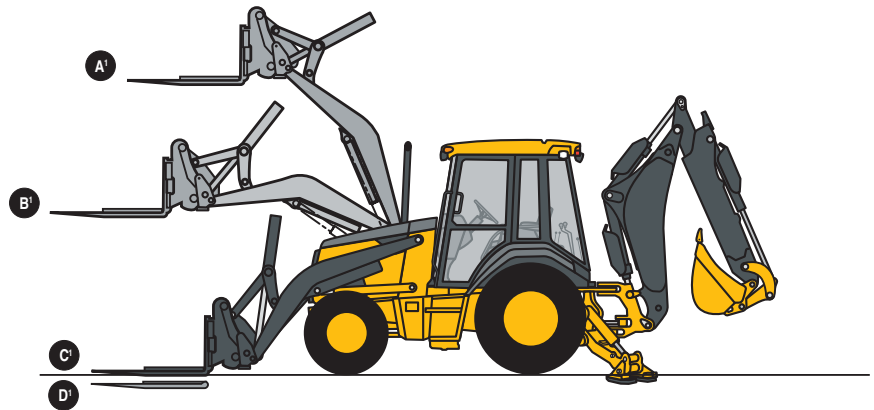
- Bucket Range 12–30 in. (305–762 mm)
- Digging Force
- Bucket Cylinder 14,801 lb. (65.8 kN)
- Crowd Cylinder 8,741 lb. (38.9 kN)
- Swing Arc 180 deg.
- Operator Control two joysticks
- With Extendable Dipperstick*
- Retracted* *Extended*
- F** Loading Height (truck loading position) 12 ft. 8 in. (3.86 m) 15 ft. 6 in. (4.72 m)
- G** Reach from Center of Swing Pivot 19 ft. 11 in. (6.07 m) 23 ft. 8 in. (7.21 m)
- H** Reach from Center of Rear Axle 23 ft. 7 in. (7.19 m) 27 ft. 4 in. (8.33 m)
- I** Digging Depth (SAE maximum) 16 ft. 1 in. (4.90 m) 20 ft. 0 in. (6.10 m)
- J** Digging Depth (SAE)
- 2-ft. (610 mm) Flat Bottom 15 ft. 11 in. (4.85 m) 19 ft. 11 in. (6.07 m)
- 8-ft. (2440 mm) Flat Bottom 14 ft. 11 in. (4.55 m) 19 ft. 1 in. (5.82 m)
- K** Stabilizer Width (transport with ROPS) 7 ft. 7 in. (2.30 m) 7 ft. 7 in. (2.30 m)
- L** Stabilizer Spread (operating) 11 ft. 4 in. (3.45 m) 11 ft. 4 in. (3.45 m)
- M** Stabilizer Overall Width (operating) 13 ft. 3 in. (4.03 m) 13 ft. 3 in. (4.03 m)
- N** Bucket Rotation 190 deg. 190 deg.
- O** Transport Height 12 ft. 10 in. (3.91 m) 12 ft. 10 in. (3.91 m)

Loader Dimensions / Performance 410J TMC

P Bucket Dump Angle (maximum)	45 deg.			
Q Rollback Angle at Ground Level	40 deg.			
	<i>Heavy-duty long lip</i>	<i>Heavy-duty</i>	<i>Heavy-duty</i>	<i>Multipurpose</i>
Bucket Capacity	1.25 cu. yd. (0.96 m³)	1.31 cu. yd. (1.00 m³)	1.50 cu. yd. (1.15 m³)	1.31 cu. yd. (1.00 m³)
Width	86 in. (2184 mm)	92 in. (2337 mm)	94 in. (2388 mm)	92 in. (2337 mm)
Standard Loader Option				
Weight	892 lb. (405 kg)	1,148 lb. (521 kg)	1,208 lb. (548 kg)	1,800 lb. (817 kg)
Breakout Force	10,210 lb. (45.8 kN)	10,300 lb. (45.8 kN)	10,170 lb. (45.2 kN)	9,650 lb. (42.9 kN)
Lift Capacity (full height)	7,340 lb. (3332 kg)	7,200 lb. (3269 kg)	7,070 lb. (3210 kg)	6,600 lb. (2996 kg)
R Height to Bucket Hinge Pin (maximum)	11 ft. 0 in. (3.35 m)	11 ft. 0 in. (3.35 m)	11 ft. 0 in. (3.35 m)	11 ft. 0 in. (3.35 m)
S Dump Clearance (bucket at 45 deg.)	8 ft. 4 in. (2.54 m)	8 ft. 10 in. (2.69 m)	8 ft. 9 in. (2.67 m)	8 ft. 7 in. (2.62 m)
T Reach at Full Height (bucket at 45 deg.)	35.5 in. (902 mm)	30.0 in. (762 mm)	31.0 in. (787 mm)	32.2 in. (818 mm)
U Digging Depth Below Ground (bucket level)	4.2 in. (107 mm)	6.7 in. (170 mm)	6.2 in. (157 mm)	7.2 in. (182 mm)
V Length From Front Axle Centerline to Bucket Cutting Edge	7 ft. 2 in. (2.18 m)	6 ft. 8 in. (2.03 m)	6 ft. 8 in. (2.03 m)	7 ft. 1 in. (2.15 m)
Tool-Carrier Loader Option				
Weight	860 lb. (390 kg)	1,085 lb. (493 kg)	1,145 lb. (520 kg)	1,737 lb. (789 kg)
Breakout Force	10,300 lb. (45.8 kN)	11,450 lb. (50.9 kN)	10,640 lb. (47.3 kN)	9,680 lb. (43.1 kN)
Lift Capacity (full height)	6,625 lb. (3008 kg)	7,215 lb. (3276 kg)	6,815 lb. (3094 kg)	5,850 lb. (2656 kg)
R Height to Bucket Hinge Pin (maximum)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)	11 ft. 0 in. (3.35 m)	11 ft. 2 in. (3.40 m)
S Dump Clearance (bucket at 45 deg.)	8 ft. 3 in. (2.51 m)	8 ft. 6 in. (2.59 m)	8 ft. 5 in. (2.57 m)	8 ft. 2 in. (2.50 m)
T Reach at Full Height (bucket at 45 deg.)	34.2 in. (868 mm)	30.0 in. (762 mm)	31.0 in. (787 mm)	32.9 in. (836 mm)
U Digging Depth Below Ground (bucket level)	4.8 in. (147 mm)	5.5 in. (206 mm)	5.5 in. (157 mm)	6.0 in. (152 mm)
V Length From Front Axle Centerline to Bucket Cutting Edge	7 ft. 7 in. (2.30 m)	7 ft. 1 in. (2.15 m)	7 ft. 1 in. (2.15 m)	7 ft. 5 in. (2.27 m)

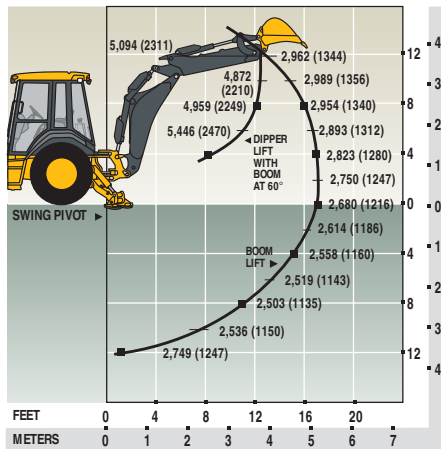
Lift Capacity with Quick-Coupler / Forks

A ¹ Maximum Height	4,875 lb. (2211 kg)
B ¹ Maximum Reach	7,580 lb. (3438 kg)
C At Ground Line	9,700 lb. (4400 kg)
D Below Ground Line	8.3 in. (211 mm)

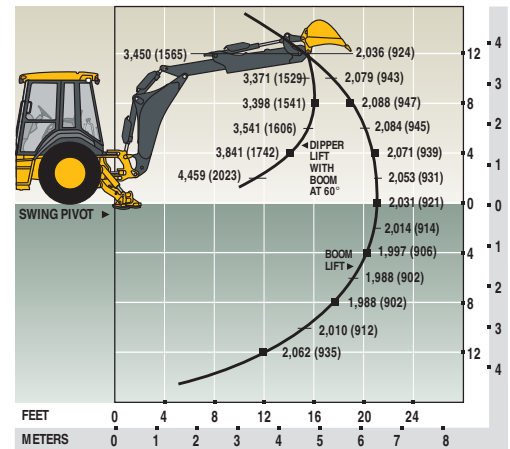


Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

410J TMC Backhoe with 4-ft. (1.22 m) Extendable Dipperstick, Retracted



410J TMC Backhoe with 4-ft. (1.22 m) Extendable Dipperstick, Extended



710J



Engine 710J

Manufacturer and Model	John Deere PowerTech™ 6068T turbocharged, standard
Non-Road Emission Standards	certified to EPA Tier 2 emissions
Displacement	414 cu. in. (6.8 L)
Net Peak Power (ISO9249)	123 hp (92 kW) @ 2,000 rpm
Net Peak Torque (ISO9249)	395 lb.-ft. (537 Nm) @ 1,300 rpm
Net Torque Rise	41%
Lubrication	pressure system with spin-on filter and cooler
Air Cleaner	dual-stage dry type with safety element and evacuator valve

Cooling

Fan Type	suction
Engine Coolant Rating	-34°F (-37°C)
Engine Oil Cooler	oil to water

Powertrain

Transmission 4-speed, helical-cut gears, full powershifted with hydraulic reverser standard; electric clutch cutoff on gearshift and loader levers

Torque Converter single stage, dual phase with 1.95:1 stall ratio; 11 in. (280 mm)

Maximum Travel Speeds (with 21L-28 rear and 14.5/75-16.1 front tires)

	<i>Forward</i>	<i>Reverse</i>
6068T Standard with Mechanical-Front-Wheel Drive		
Gear 1	3.7 mph (6.0 km/h)	4.1 mph (6.6 km/h)
Gear 2	6.1 mph (9.8 km/h)	6.9 mph (11.1 km/h)
Gear 3	15.2 mph (24.5 km/h)	16.9 mph (27.2 km/h)
Gear 4	24.6 mph (39.6 km/h)	N/A
6068T Non-Powered Front Axle (Optional) with Powershift Transmission		
Gear 1	3.8 mph (6.1 km/h)	4.0 mph (6.4 km/h)
Gear 2	6.4 mph (10.3 km/h)	6.6 mph (10.6 km/h)
Gear 3	15.3 mph (24.6 km/h)	16.1 mph (25.9 km/h)
Gear 4	23.0 mph (37.0 km/h)	N/A

Axles

Axle Oscillations, Stop to Stop (both axles) 22 deg.

Axle Ratings	<i>Mechanical-front-wheel drive</i>	<i>Non-powered front axle (optional)</i>	<i>Rear axle</i>
Static	40,786 lb. (18 500 kg)	50,596 lb. (22 950 kg)	43,431 lb. (19 700 kg)
Dynamic	16,976 lb. (7700 kg)	20,283 lb. (9200 kg)	21,605 lb. (9800 kg)
Ultimate	96,122 lb. (43 600 kg)	90,390 lb. (41 000 kg)	102,295 lb. (46 400 kg)

Differentials automatic, traction-control limited slip (mechanical-front-wheel-drive) / electric, foot-actuated, 100% hydraulically locking (rear)

Steering (ISO5010) hydrostatic power and emergency steering

Axle	<i>Mechanical-front-wheel drive</i>	<i>Non-powered front axle (optional)</i>
Curb-Turning Radius		
With Brakes	10 ft. 11 in. (3.33 m)	10 ft. 7 in. (3.23 m)
Without Brakes	13 ft. 8 in. (4.17 m)	14 ft. 11 in. (4.55 m)
Bucket Clearance Circle		
With Brakes	29 ft. 9 in. (9.07 m)	31 ft. 6 in. (9.60 m)
Without Brakes	35 ft. 3 in. (10.74 m)	34 ft. 7 in. (10.54 m)
Steering Wheel Turns (lock to lock, flow amplified)	2.7 to 4.4	2.8 to 4.5

Final Drives heavy-duty, inboard planetary final drives distribute shock loads over 4 gears

Brakes (SAE J1473)

Service	full power, hydraulic wet disc, mounted inboard, self-adjusting and self-equalizing
Parking	spring-applied, hydraulically released, wet, multi disc, independent of service brakes with electric switch control

Hydraulics

710J

Main Pump	pressure-compensated load sensing (PCLS), axial piston
Pump Flow @ 2,200 rpm	
Backhoe	52 gpm (197 L/min.)
Loader	52 gpm (197 L/min.)
System Relief Pressure	
Backhoe	3,625 psi (24 993 kPa)
Loader	3,625 psi (24 993 kPa)
Backhoe Controls	pilot controls with pattern select standard; two-lever manual, three-lever manual controls with foot swing, and manual and/or electric auxiliary functions optional
Loader Controls	single-lever control with electric clutch cutoff switch standard; manual auxiliary function optional

Cylinders

Type	heat-treated, chrome-plated, polished rods; hardened-steel (replaceable bushings) pivot pins		
	<i>Bore</i>	<i>Rod Diameter</i>	<i>Stroke</i>
Loader Boom (2)	3.94 in. (100 mm)	2.20 in. (56 mm)	31.69 in. (805 mm)
Loader Bucket (1)	4.33 in. (110 mm)	2.20 in. (56 mm)	26.44 in. (672 mm)
Backhoe Boom (1)	6.30 in. (160 mm)	3.74 in. (95 mm)	37.17 in. (944 mm)
Backhoe Crowd (1)	5.51 in. (140 mm)	3.35 in. (85 mm)	31.16 in. (792 mm)
Backhoe Bucket (1)	4.33 in. (110 mm)	2.76 in. (70 mm)	36.97 in. (939 mm)
Backhoe Swing (2)	4.33 in. (110 mm)	2.20 in. (56 mm)	12.13 in. (308 mm)
Backhoe Extendable Dipperstick (1)	3.15 in. (80 mm)	1.77 in. (45 mm)	54.00 in. (1372 mm)
Backhoe Stabilizer, Standard (2)	4.53 in. (115 mm)	2.48 in. (63 mm)	23.15 in. (588 mm)
Non-Powered Axle (1)	2.95 in. (75 mm)	1.77 in. (45 mm)	9.06 in. (230 mm)
Mechanical-Front-Wheel Drive (1)	2.95 in. (75 mm)	1.97 in. (50 mm)	10.24 in. (260 mm)

Electrical

Voltage	12 volt
Alternator Rating	90 amp

Operator Station

Type (SAE J1040)	canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof
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Overall Vehicle

Mainframe	unitized one-piece construction
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Tires

	<i>Front</i>	<i>Rear</i>
Non-Powered Front Axle	14.5/75-16.1 SL F-3 (10) 16.5L-16.1 SL F-3 (10)	21L-28 R-4 (14) 21L-28 R-4 (14)
Mechanical-Front-Wheel Drive	15-19.5 NHS SS-1 (8) 15-19.5 NHS SS-1 (8)	21L-28 R-4 (14) 20.5-25 L-2 (12)

Serviceability

Hydraulic Oil Filter, Spin-On Enclosed Replaceable Element, Vertically Mounted	6-micron filtration / 1,000 service hours
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Refill Capacities

Cooling System	28 qt. (26 L)
Rear Axle	17 qt. (16 L)
Engine Oil (including vertical spin-on filter)	21.1 qt. (20 L)
Torque Converter and Transmission	16 qt. (15.1 L)
Fuel Tank (with ground-level fueling)	69 gal. (261 L)
Hydraulic System	40 gal. (151 L)
Hydraulic Reservoir	12.4 gal. (47 L)
Mechanical-Front-Wheel-Drive Housing	
Axle	9.5 qt. (9 L)
Planetary (each)	0.86 qt. (0.81 L)

Operating Weights

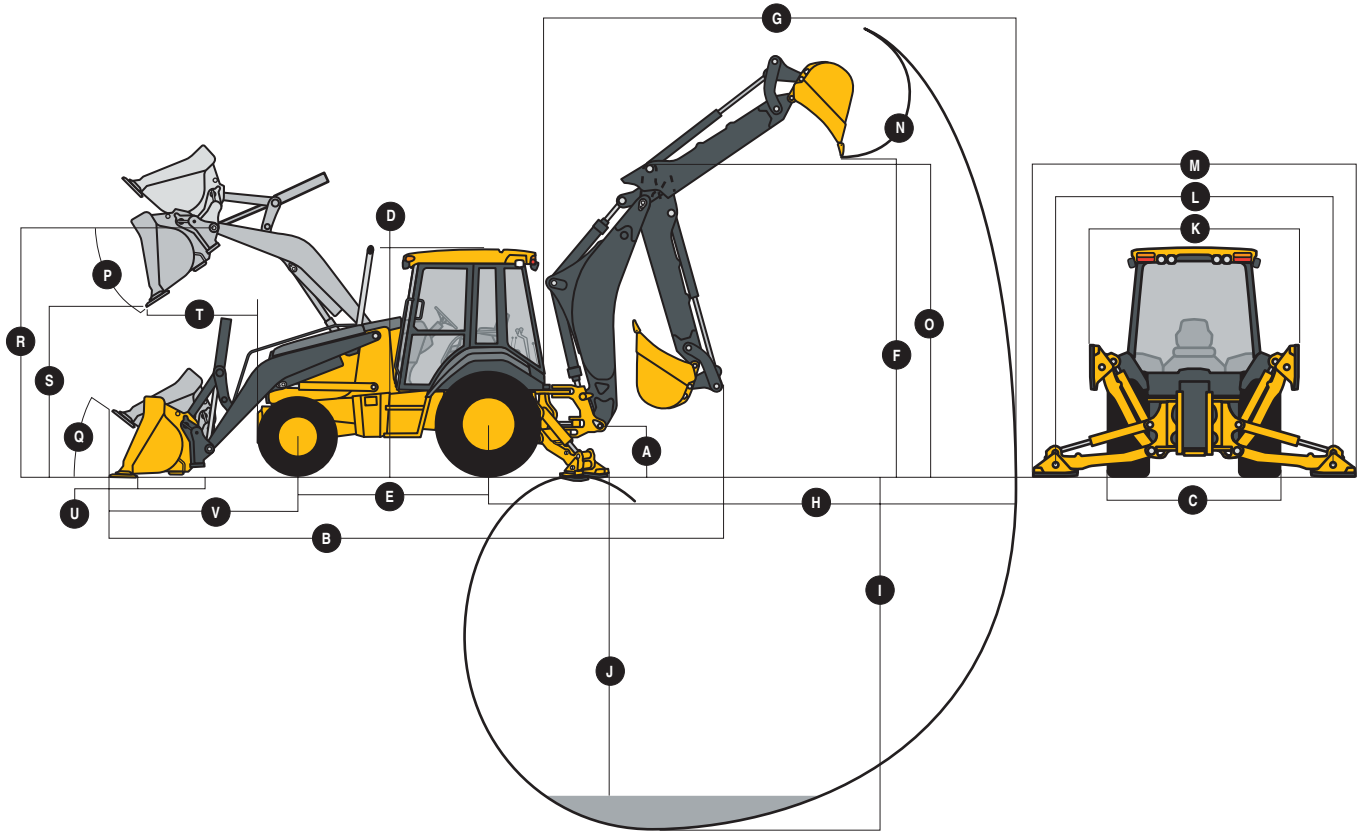
With Full Fuel Tank, 175-lb. (79 kg) Operator, and Standard Equipment	23,000 lb. (10 431 kg)
Typical with Cab, Mechanical-Front-Wheel Drive, Extendable Dipperstick, and 1,630-lb. (740 kg) Counterweight	26,000 lb. (11 791 kg)

Optional Components

Cab	645 lb. (293 kg)
Mechanical-Front-Wheel Drive with Tires	822 lb. (373 kg)
Extendable Dipperstick	700 lb. (317 kg)
Front Loader Coupler	800 lb. (363 kg)
Backhoe Bucket Coupler	660 lb. (299 kg)

Overall Dimensions 710J

A Ground Clearance (minimum)	14 in. (356 mm)
B Overall Length (transport)	26 ft. 9 in. (8.15 m)
C Width over Tires	7 ft. 6 in. (2.29 m)
D Height to Top of ROPS/Cab	9 ft. 9 in. (2.97 m)
E Length from Axle to Axle	
Non-Powered Front Axle	8 ft. 3 in. (2.52 m)
Mechanical-Front-Wheel-Drive Axle	8 ft. 2 in. (2.49 m)



Backhoe Dimensions / Performance 710J

Backhoe specifications are with 24-in. x 11.1-cu.-ft. (610 mm x 0.31 m³) bucket

Bucket Range	24–36 in. (610–914 mm)
Digging Force	
Bucket Cylinder	17,000 lb. (75.6 kN)
Crowd Cylinder	11,750 lb. (52.3 kN)
Swing Arc	180 deg.
Operator Control	pilot control

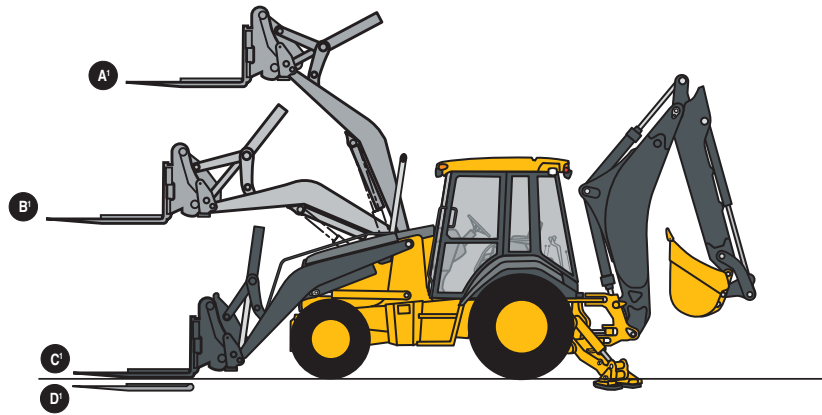
	<i>With Standard Backhoe</i>	<i>With Optional Extendable Dipperstick Retracted</i>	<i>Extended</i>
F Loading Height (truck loading position)	14 ft. 3 in. (4.34 m)	14 ft. 3 in. (4.34 m)	17 ft. 0 in. (5.18 m)
G Reach from Center of Swing Pivot	22 ft. 6 in. (6.86 m)	22 ft. 6 in. (6.86 m)	26 ft. 10 in. (8.19 m)
H Reach from Center of Rear Axle	26 ft. 8 in. (8.13 m)	26 ft. 8 in. (8.13 m)	31 ft. 0 in. (9.46 m)
I Digging Depth (SAE maximum)	17 ft. 10 in. (5.44 m)	17 ft. 10 in. (5.44 m)	22 ft. 4 in. (6.81 m)
J Digging Depth (SAE)			
2-ft. (610 mm) Flat Bottom	17 ft. 9 in. (5.41 m)	17 ft. 9 in. (5.41 m)	22 ft. 5 in. (6.83 m)
8-ft. (2440 mm) Flat Bottom	17 ft. 0 in. (5.18 m)	17 ft. 0 in. (5.18 m)	21 ft. 7 in. (6.58 m)
K Stabilizer Width (transport with ROPS)	7 ft. 11 in. (2.41 m)	7 ft. 11 in. (2.41 m)	7 ft. 11 in. (2.41 m)
L Stabilizer Spread (operating)	13 ft. 1 in. (3.99 m)	13 ft. 1 in. (3.99 m)	13 ft. 1 in. (3.99 m)
M Stabilizer Overall Width (operating)	15 ft. 3 in. (4.65 m)	15 ft. 3 in. (4.65 m)	15 ft. 3 in. (4.65 m)
N Bucket Rotation	190 deg.	190 deg.	190 deg.
O Transport Height	13 ft. 8 in. (4.17 m)	13 ft. 10 in. (4.22 m)	13 ft. 10 in. (4.22 m)

Loader Dimensions / Performance 710J

P Bucket Dump Angle (maximum)	45 deg.		
Q Rollback Angle at Ground Level	40 deg.		
	<i>Standard-duty</i>	<i>Standard-duty</i>	<i>Multipurpose</i>
Bucket Capacity	1.62 cu. yd. (1.24 m ³)	1.87 cu. yd. (1.43 m ³)	1.375 cu. yd. (1.05 m ³)
Width	97 in. (2464 mm)	97 in. (2464 mm)	96.5 in. (2451 mm)
Weight	1,830 lb. (831 kg)	1,909 lb. (867 kg)	2,136 lb. (970 kg)
Breakout Force	15,540 lb. (69.1 kN)	14,800 lb. (65.8 kN)	15,690 lb. (69.8 kN)
Lift Capacity (full height)	9,277 lb. (4212 kg)	8,693 lb. (3947 kg)	8,732 lb. (3964 kg)
R Height to Bucket Hinge Pin (maximum)	12 ft. 5 in. (3.78 m)		
S Dump Clearance (bucket at 45 deg.)	9 ft. 7 in. (2.92 m)		
T Reach at Full Height (bucket at 45 deg.)	27.2 in. (691 mm)		
U Digging Depth Below Ground (bucket level)	4.1 in. (104 mm)		
V Length From Front Axle Centerline to			
Bucket Cutting Edge	6 ft. 11 in. (2.10 m)	7 ft. 3 in. (2.21 m)	6 ft. 9 in. (2.06 m)

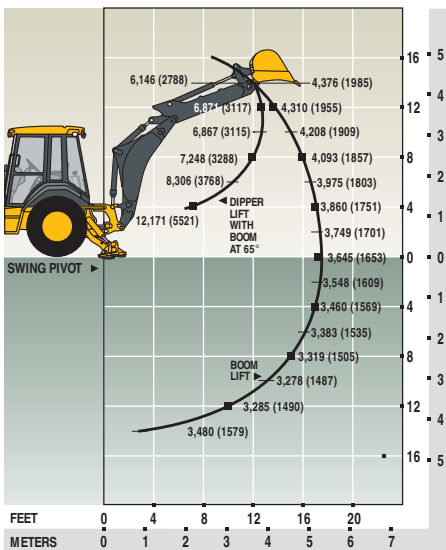
Lift Capacity with Quick-Coupler / Forks

A' Maximum Height	5,803 lb. (2632 kg)
B' Maximum Reach	9,651 lb. (4378 kg)
C' At Ground Line	13,353 lb. (6057 kg)
D' Below Ground Line	5.5 in. (140 mm)

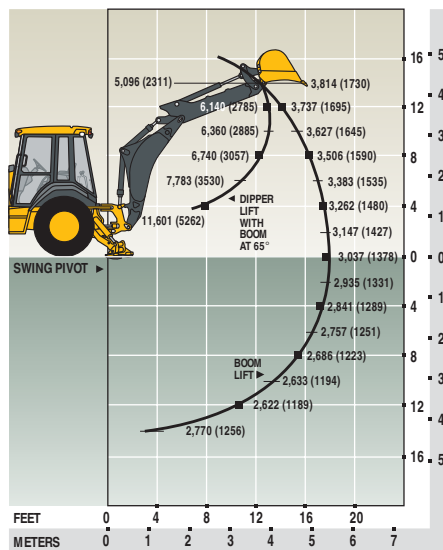


Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

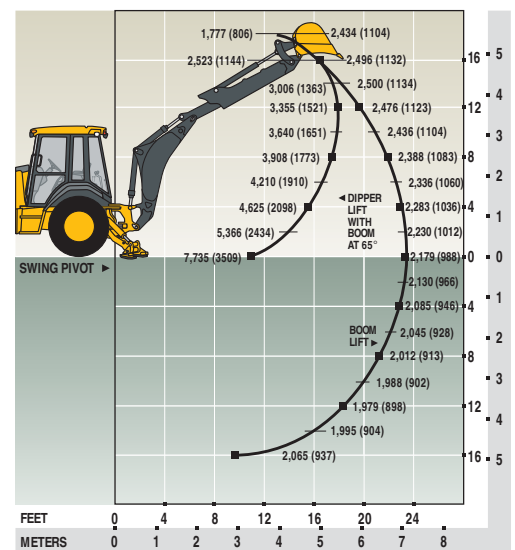
710J Backhoe with Standard Dipperstick



710J Backhoe with 4-ft. 6-in. (1.37 m) Extendable Dipperstick, Retracted



710J Backhoe with 4-ft. 6-in. (1.37 m) Extendable Dipperstick, Extended



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

310J / 310SJ / 410J / 710J BACKHOE LOADERS

Key: ● Standard equipment ▲ Optional equipment

*See your John Deere dealer for further information.

310J	310SJ	410J	710J	Engine
●	●	●	●	Certified to EPA Tier 2 emissions
●	●	●	●	John Deere Model 4045D – 4.5 liter, 72 net peak hp (54 kW) naturally aspirated, isolation mounted
▲	▲	▲	▲	John Deere Model 4045T – 4.5 liter, 79 net peak hp (59 kW) turbocharged, isolation mounted
●	●	●	●	John Deere Model 4045T – 4.5 liter, 92 net peak hp (69 kW) turbocharged, isolation mounted
●	●	●	●	John Deere Model 4045T – 4.5 liter, 96 net peak hp (72 kW) turbocharged, isolation mounted
●	●	●	●	John Deere Model 6068T – 6.8 liter, 123 net peak hp (92 kW) turbocharged, isolation mounted
●	●	●	●	Vertical spin-on engine oil filter
●	●	●	●	Vertical spin-on fuel filter with water separator
●	●	●	●	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
●	●	●	●	Muffler, under hood with curved-end exhaust stack
▲	▲	▲	▲	Chrome exhaust extension
▲	▲	▲	▲	Electric ether starting aid
▲	▲	▲	▲	Engine coolant heater, 1,000 watts
Powertrain				
●	●	●	●	Powershift transmission: Torque converter with electrically actuated twist grip F-N-R with neutral safety switch interlock (1st through 4th gears)
●	●	●	●	Transmission oil cooler
●	●	●	●	Vertical spin-on transmission filter
▲	▲	▲	▲	Transmission remote oil-sampling port
●	●	●	●	Differential lock, electric foot-actuated
●	●	●	●	Planetary final drives
●	●	●	●	Power-assisted hydraulic service brakes (conform to ISO 3450): Inboard, wet multi-disc, self-adjusting and self-equalizing
●	●	●	●	Parking/emergency brake with electric switch control (conforms to ISO 3450): 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 with open differential: Electric on/off control / Driveshaft guard / Sealed axle
●	●	●	●	Mechanical-front-wheel-drive with traction control limited-slip differential: Electric on/off control / Driveshaft guard / Sealed axle
▲	▲	▲	▲	Rear wheel spacers for use with chains
Backhoe				
●	●	●	●	Standard dipperstick, 14-ft. 3-in. digging depth
●	●	●	●	Standard dipperstick, 14-ft. 6-in. digging depth
●	●	●	●	Standard dipperstick, 15-ft. 10-in. digging depth
▲	▲	▲	▲	Standard dipperstick, 17-ft. 10-in. digging depth
▲	▲	▲	▲	Extendable dipperstick, 3-ft. 6-in. extension
▲	▲	▲	▲	Extendable dipperstick, 4-ft. extension
▲	▲	▲	▲	Extendable dipperstick, 4-ft. 6-in. extension
▲	▲	▲	▲	Heavy-duty backhoe bucket cylinder option
●	●	●	●	Two-lever (Deere) backhoe controls
▲	▲	▲	▲	Two-lever pilot controls with pattern-selection feature
●	●	●	●	Backhoe transport lock lever
●	●	●	●	Swing lock pin stored in operator's station
●	●	●	●	Stabilizers with two-direction anti-drift valves

310J	310SJ	410J	710J	Backhoe (continued)
●	●	●	●	Pivoting stabilizers with reversible pads
●	▲	▲	▲	Extended (long) stabilizers with reversible pads
●	●	●	●	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, Case, and Cat buckets
▲	▲	▲	▲	Auxiliary backhoe valve for swinglers, thumbs, etc. with auxiliary plumbing
▲	▲	▲	▲	Auxiliary backhoe valve for hammers and compactors with auxiliary plumbing
Loader[†]				
●	●	●	●	Loader bucket anti-spill (rollback)
●	●	●	●	Return-to-dig feature
●	●	●	●	Single-lever control with electric clutch cutoff switch
●	●	●	●	Bucket-level indicator
●	●	●	●	Loader boom service lock
▲	▲	▲	▲	Ride control
▲	▲	▲	▲	Auxiliary loader hydraulics with two-lever control
▲	▲	▲	▲	Front loader hydraulic coupler for buckets, forks, etc.
●	●	●	●	Less bucket, with bucket pins
●	●	●	●	High-visibility loader arms
Hydraulic System				
●	●	●	●	28-gpm (106 L/min.) gear pump, open-center system
●	●	●	●	36-gpm (136 L/min.) tandem gear pump, open-center system
●	●	●	●	42-gpm (159 L/min.) axial piston pump, PCLS system
●	●	●	●	52-gpm (197 L/min.) axial piston pump, PCLS system
●	●	●	●	Independent hydraulic reservoir
●	●	●	●	"O"-ring face seal connectors
●	●	●	●	6-micron vertical spin-on filter
Electrical System				
●	●	●	●	12-volt system
●	●	●	●	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
▲	▲	▲	▲	Master disconnect switch
●	●	●	●	Jump/auxiliary start terminal
Lights				
●	●	●	●	Halogen lights (4), 32,500 candlepower each (2 front driving/working and 2 rear working)
▲	▲	▲	▲	Additional halogen work lights (6), 32,500 candlepower each (2 front, 2 rear, and 2 side docking)
●	●	●	●	Turn signal/flashing (2 front and 2 rear)
●	●	●	●	Rear stop and tail (2)
●	●	●	●	Rear reflectors (2)
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 (conform to SAE J185)
●	●	●	●	Molded floor mats
●	●	●	●	Headliner
●	●	●	●	Coat hook
●	●	●	●	12-volt outlets (2 cab, 1 canopy)
●	●	●	●	Built-in beverage and Thermos bottle holders

310J	310SJ	410J	710J	Operator's Station (continued)
●	●	●	●	Built-in Operator's Manual storage compartment with manual
●	●	●	●	Interior rearview mirror
▲	▲	▲	▲	Outside rearview mirrors
●	●	●	●	Rotary hand throttle
●	●	●	●	Suspended foot throttle
▲	▲	▲	▲	Tilt steering
●	●	●	●	Horn
●	●	●	●	Key start switch with electric fuel shutoff
▲	▲	▲	▲	Electronic anti-theft enabled through monitor
●	●	●	●	Engine coolant temperature gauge, illuminated electronic, with audible warning
●	●	●	●	Oil temperature gauge, illuminated electronic, with audible warning
●	●	●	●	Fuel gauge, illuminated electronic
●	●	●	●	Digital display of engine hours, engine rpm, and system voltage
●	●	●	●	Monitor system with audible and visual warnings: Engine air restriction indicator / Low alternator voltage 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 / Machine diagnostic information via 4-push-button/LCD operator interface
●	●	●	●	Mechanical suspension deluxe vinyl swivel seat with lumbar adjustment and armrests (fully adjustable)
▲	▲	▲	▲	Mechanical suspension deluxe fabric swivel seat with lumbar adjustment and armrests (fully adjustable)
▲	▲	▲	▲	Air suspension deluxe fabric swivel seat with lumbar adjustment
●	●	●	●	Seat belt, 2-in., with retractor
▲	▲	▲	▲	Seat belt, 3-in., with retractor
▲	▲	▲	▲	Cab: Headliner, dome light, left and right cab doors, tinted safety glass, windshield wiper (one rear and one front), front windshield washer, fresh-air intake, heater/defroster/pressurizer (40,000-Btu/hr. [11.7 kW] heater), and 12-volt outlets (2)
▲	▲	▲	▲	Air conditioner (26,000-Btu/hr. [7.6 kW] output and CFC-free R134a refrigerant)
▲	▲	▲	▲	AM/FM/weather-band radio
▲	▲	▲	▲	AM/FM/weather-band radio with CD player
Overall Vehicle				
●	●	●	●	One-piece unitized construction mainframe
●	●	●	●	Vehicle tie-downs (2 front and 2 rear)
●	●	●	●	Remote grease bank for front axle
●	●	●	●	Heavy-duty front bumper
▲	▲	▲	▲	450-lb. (204 kg) front counterweight
▲	▲	▲	▲	700-lb. (317 kg) front counterweight
▲	▲	▲	▲	1,000-lb. (454 kg) front counterweight
▲	▲	▲	▲	1,250-lb. (567 kg) front counterweight
▲	▲	▲	▲	1,450-lb. (657 kg) front counterweight
●	●	●	●	930-lb. (422 kg) front counterweight
▲	▲	▲	▲	1,630-lb. (740 kg) front counterweight
▲	▲	▲	▲	Rubber grille bumpers
●	●	●	●	Fuel tank, 41 gal. (155 L), ground-level fueling
●	●	●	●	Fuel tank, 69 gal. (261 L), ground-level fueling
●	●	●	●	Two-position easy-tilt hood
●	●	●	●	Extended grille frame
●	●	●	●	Removable toolbox with padlock hasp
●	●	●	●	Vandal protection for locking monitor, engine hood, toolbox, hydraulic reservoir, and fuel tank
▲	▲	▲	▲	Reverse warning alarm
▲	▲	▲	▲	Sound-reduction package
●	●	●	●	Dent-resistant full-coverage rear fenders

[†]See dealer for range of heavy-duty, multipurpose, and coupler buckets and forks.

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. (1,500 m) altitude for the 310J and up to 10,000-ft. (3,050 m) for the 310J with optional altitude-compensating turbocharger, the 310SJ, the 410J, and the 710J.

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 310J unit with 19.5L-24 R-4 (10) rear and 11L-16 SL F-3 (12) 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 310SJ unit with 19.5L-24 R-4 (10) rear and 11L-16 SL F-3 (12) 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 410J unit with 21L-24 R-4 (10) rear and 14.5/75-16.1 F-3 (10) 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 710J unit with 21L-28 R-4 (14) rear and 14.5/75-16.1 SL F-3 (10) front tires, 1.62-cu.-yd. (1.24 m³) loader bucket, and 24-in. x 11.1-cu.-ft. (610 mm x 0.31 m³) backhoe bucket.

310SJ / 410J WITH TOTAL MACHINE CONTROL™

Key: ● Standard equipment ▲ Optional equipment

*See your John Deere dealer for further information.

310SJ 410J TMC TMC Engine

- ● Certified to EPA Tier 2 emissions
- John Deere Model 4045T – 4.5 liter, 92 net peak hp (69 kW) turbocharged, isolation mounted
- John Deere Model 4045T – 4.5 liter, 96 net peak hp (72 kW) turbocharged, isolation mounted
- ● Vertical spin-on engine oil filter
- ● Vertical spin-on fuel filter with water separator
- ● 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
- ● Muffler, under hood with curved-end exhaust stack
- ▲ ▲ Chrome exhaust extension
- ▲ ▲ Electric ether starting aid
- ▲ ▲ Engine coolant heater, 1,000 watts

Powertrain

- ● Powershift transmission: Torque converter with electrically actuated twist grip F-N-R with neutral safety switch interlock (1st through 4th gears)
- ● Transmission oil cooler
- ● Vertical spin-on transmission filter
- ▲ ▲ Transmission remote oil-sampling port
- ● Differential lock, electric foot-actuated
- ● Planetary final drives
- ● Power-assisted hydraulic service brakes (conform to ISO 3450): Inboard, wet multi-disc, self-adjusting and self-equalizing
- ● Parking/emergency brake with electric switch control (conforms to ISO 3450): 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 with traction control limited-slip differential: Electric on/off control / Driveshaft guard / Sealed axle
- ▲ ▲ Rear wheel spacers for use with chains

Backhoe

- Extendable dipperstick, 3-ft. 6-in. extension
- Extendable dipperstick, 4-ft. extension
- Heavy-duty backhoe bucket cylinder
- Backhoe transport lock lever
- Swing lock pin stored in operator's station
- Stabilizers with two-direction anti-drift valves
- Pivoting stabilizers with reversible pads
- ▲ Extended (long) stabilizers with reversible pads
- 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, Case, and Cat buckets
- ▲ ▲ Auxiliary backhoe valve for swingers, thumbs, etc. with auxiliary plumbing

310SJ 410J TMC TMC Backhoe (continued)

- ▲ ▲ Auxiliary backhoe valve for hammers and compactors with auxiliary plumbing
- Loader[†]
- ● Loader bucket anti-spill (settable height)
- ● Return-to-dig feature (settable / activates from curled or dumped bucket position)
- ● Armrest-mounted joysticks with electric clutch cutoff, auxiliary loader control, extendible dipperstick control, MFWD control (momentary), MFWD control (permanent), proportional auxiliary backhoe control, and horn
- ▲ ▲ Auxiliary loader hydraulics with thumb-switch control
- ● Mini joystick for simultaneous control of loader and backhoe
- ● Electric bucket-level indicator
- ● Loader boom service lock
- ▲ ▲ Ride control
- ● Less bucket, with bucket pins
- ● High-visibility loader arms
- ▲ ▲ Tool-carrier loader: Front loader hydraulic quick-coupler / Parallel lift (selectable) / Return-to-carry (selectable / height set) / Boom-height kickout

Hydraulic System

- ● 42-gpm (159 L/min.) axial piston pump
- ● Independent hydraulic reservoir
- ● "O"-ring face seal connectors
- ● 6-micron vertical spin-on filter

Electrical System

- ● 12-volt system
- ● 120-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
- ▲ ▲ Master disconnect switch
- ● Jump/auxiliary start terminal

Lights

- ● Additional halogen work lights (6), 32,500 candlepower each (2 front, 2 rear, and 2 side docking)
- ● Turn signal/flashing (2 front and 2 rear)
- ● Rear stop and tail (2)
- ● Rear reflectors (2)

Operator's Station

- ● Modular-design ROPS/FOPS cab with molded roof (conforms to SAE J1040): Isolation mounted
- ● Left and right access
- ● Slip-resistant steps and ergonomically located handholds (conform to SAE J185)
- ● Molded floor mats
- ● Headliner
- ● Coat hook
- ● 12-volt outlets (2)
- ● Built-in beverage and Thermos bottle holders
- ● Built-in Operator's Manual storage compartment with manual

310SJ 410J TMC TMC Operator's Station (continued)

- ● Auto-idle
- ● Interior rearview mirror
- ● Interior front-view mirror
- ▲ ▲ Outside rearview mirrors
- ● Stabilizer controls in the left armrest
- ● Rotary-dial hand throttle
- ● Suspended foot throttle
- ● Tilt steering, infinitely adjustable
- ● Horn in side console
- ● Key start switch with electric fuel shutoff
- ▲ ▲ Electronic anti-theft enabled through monitor
- ● Engine coolant temperature gauge, illuminated electronic, with audible warning
- ● Oil temperature gauge, illuminated electronic, with audible warning
- ● Fuel gauge, illuminated electronic
- ● Digital display of engine hours, engine rpm, and system voltage
- ● Monitor system with audible and visual warnings: Engine air restriction indicator / Low alternator voltage 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 / Machine diagnostic information via 4-pushbutton/LCD operator interface
- ● Air suspension deluxe fabric swivel seat with lumbar adjustment
- ● Seat belt, 2-in., with retractor
- ▲ ▲ Seat belt, 3-in., with retractor
- ● Cab: Headliner, dome light, left and right cab doors, tinted safety glass, windshield wiper (one rear and one front), front windshield washer, fresh-air intake, heater/defroster/pressurizer (40,000-Btu/hr. [11.7 kW] heater), and 12-volt outlets (2)
- ▲ ▲ Air conditioner (26,000-Btu/hr. [7.6 kW] output and CFC-free R134a refrigerant)
- ▲ ▲ AM/FM/weather-band radio
- ▲ ▲ AM/FM/weather-band radio with CD player

Overall Vehicle

- ● One-piece unitized construction mainframe
- ● Vehicle tie-downs (2 front and 2 rear)
- ● Remote grease bank for front axle
- ● Heavy-duty front bumper
- ▲ ▲ 450-lb. (204 kg) front counterweight
- ▲ ▲ 700-lb. (317 kg) front counterweight
- ▲ ▲ 1,000-lb. (454 kg) front counterweight
- ▲ ▲ 1,250-lb. (567 kg) front counterweight
- ▲ ▲ 1,450-lb. (657 kg) front counterweight
- ▲ ▲ Rubber grille bumpers
- ● Fuel tank, 41 gal. (155 L), ground-level fueling
- ● Two-position easy-tilt hood
- ● Extended grille frame
- ● Removable toolbox with padlock hasp
- ● Vandal protection for locking engine hood, toolbox, hydraulic reservoir, and fuel tank
- ● Reverse warning alarm
- ▲ ▲ Sound-reduction package
- ● Dent-resistant full-coverage rear fenders

[†]See dealer for range of heavy-duty, multipurpose, and coupler buckets and forks.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions specified per ISO249. No derating is required up to 10,000-ft. (3050 m).

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 310SJ TMC unit with 19.5L-24 R-4 (10) rear and 11L-16 SL F-3 (12) 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; and a 410J TMC unit with 21L-24 R-4 (10) rear and 14.5/75-16.1 F-3 (10) 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.



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