

L-SERIES  
**BACKHOES**



JOHN DEERE

310L / 310SL / 315SL / 410L

**LIFT MORE  
AND MULTITASK**



*LOOKING FOR MORE  
RELIABILITY AND PRODUCTIVITY?*

***WE'VE GOT  
YOUR BACK.***



+



RELIABLE

PRODUCTIVE





TO BUILD A BETTER BACKHOE,  
**WE WENT TO YOU, OUR CUSTOMER.**

Through our Customer Advocate Group (CAG), we collected invaluable input from owners and operators — the ones who know best what customers really need.

**You spoke.** And we listened and responded by improving our product line with updates like pressure-compensated load-sensing (PCLS) hydraulics on the 410L, low-effort pilot controls, and a John Deere PowerShift™ transmission — and that's just the start. As always, we're boosting your productivity and maximizing uptime, while lowering daily operating costs.

**When it comes to delivering what you want, nobody responds like John Deere.**



**SIDE-SHIFT FOR TIGHT SPACES WITH THE 315SL.**

Standard-equipped side-shift backhoes can be offset up to 542 mm right or left of center, making them ideal for work in crowded urban areas and around obstacles.

*Not all features described are available for all models or configurations. Please review the Additional Equipment section and consult with your local dealer for the latest standard and optional offerings.*

# GET MORE DONE WITH ONE

## MULTIFUNCTION VERSATILITY, CONFIDENT CAPABILITY.

Why run two machines when one will do? Whether you're loading trucks, busting up blacktop, placing pipe, digging trenches, or moving materials, an L-Series Backhoe is more than up to the task. Building upon our highly productive K-Series Backhoes, the L-Series features pressure-compensated load-sensing (PCLS) hydraulics (on the 410L), for superb multifunction performance. The result: our most versatile backhoes ever.

### True four-wheel drive on command

Standard limited-slip mechanical-front-wheel drive (MFWD) (optional on the 310L\*) delivers reliable traction in any ground condition. Engage momentary MFWD "on the fly" with the touch of a button on the loader control.

### Powertrain performance

Responsive and productive standard five-speed transmission on the 310SL, 315SL, and 410L provides transport speeds up to 40 km/h. Add optional AutoShift and increase versatility in any application.

\*Open-differential MFWD is standard on the 310L.

### Control the ride and the load

With ride control activated, front loader hydraulic cylinders act as a shock absorber, smoothing travel over rough terrain, helping full loads reach their destination, and reducing operator fatigue. Optional Auto Ride Control kit eliminates the need to engage/disengage ride control every time the front bucket is loaded and can be adjusted to be enabled between 1.6–24.1 km/h.

### Smooth gear changes

PowerShift transmission provides on-the-go clutchless gear changes for the operator.

### Powerful engines

Trust John Deere PowerTech 4.5L engines to provide emissions solutions that are proven, integrated, simple, and supported, for the muscle needed to power through any workday.

### Improved multipurpose bucket

Be more productive in more applications with our standard multipurpose bucket.



**4-in-1**  
MULTIPURPOSE  
BUCKET

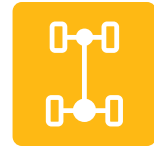




**MORE  
MOBILE. MORE  
PRODUCTIVE.**

# SAY GOODBYE TO BUMPS IN THE ROAD.

Beat operator fatigue and work faster across large jobsites with the L-Series Backhoe's standard PowerShift transmission and optional ride control. These trusted features enable you to effortlessly traverse any terrain and reduce spillage from loaded buckets in the roughest of conditions.



## 4WD

**OPTION AT YOUR  
COMMAND**



### PowerShift transmission

Take advantage of smooth shifting and reliable performance under a variety of load sizes and operating conditions with PowerShift's hydraulically actuated clutch packs.

### In-the-field update

Even if you order your machine without ride control, you can easily update it with the field kit. Simply call your dealer to order the kit and have it installed.

### Limited-slip differential

Limited-slip differential in the front axle provides excellent tractive effort and 4x4 performance. Comes standard on all models.

### Five-speed transmission (standard on 310SL, 315SL, and 410L)

Additional forward gearing enables top speeds of up to 40 km/h.

### Optional AutoShift transmission\*

The smoothest-shifting automatic transmission in the industry improves operator comfort by reducing the number of times the transmission-control lever needs to be actuated during operation.

\*Not available on the 310L.



### WHAT THE EXPERTS ARE SAYING:

■ ■ Thanks to Deere asking for my input, I get a better machine, and these improvements make all the difference in my day's productivity. ■ ■

— Todd Heiderscheidt, Backhoe CAG Member



*REDESIGNED PILOT TOWERS  
GIVE MORE LEGROOM AND  
SPACE TO ROTATE*

## ***MORE CONTROL AT YOUR FINGERTIPS***

*MAXIMUM PRODUCTIVITY IS CLOSE AT HAND.*

Increased productivity is within easy reach in an L-Series Backhoe. Redesigned loader-control grip and pilot controls provide effortless, fingertip operation of the backhoe and loader, while other machine functions are conveniently located on the steering column.



## LED SPOT- OR FLOODLIGHTS

### Easy-to-use loader-control grip

"Palm-on-top" loader-control grip is even more comfortable and easy to use. Control of clutch disconnect, transmission quick-shift, auxiliary proportional roller, and momentary mechanical-front-wheel drive is at your fingertips.

### Easy, fingertip control of backhoe functions

Fingertip electrohydraulic (EH) control of redesigned pilot levers provides even easier operation of backhoe functions, including selective flow and the horn.

### Extend your workday

LED lighting kit includes choice of LED spot- or floodlights. For enhanced visibility when your workday goes long.

### More legroom and space to rotate

Redesigned pilot towers provide more legroom and additional space for transitioning between loader and backhoe operation.

### Fatigue-beating comfort

L-Series Backhoes are loaded with creature comforts, including an efficient HVAC system and an adjustable mechanical or air-suspension seat.

### Steering column controls

Exterior lights, wipers, and turn signals are now more conveniently located on the multifunction lever on the steering column — just like a regular vehicle — helping operators keep their eyes on the job at hand.



# PROVEN RELIABILITY

## WON'T BACK DOWN. OR LET YOU DOWN.

Built with state-of-the-art tools and technology by a quality-conscious workforce at our facility in Dubuque, Iowa, U.S.A., L-Series Backhoes deliver the reliability and uptime you've come to expect from our equipment. When you know how they're built, you'll run a Deere.



### Onboard diagnostics center

Advanced onboard-diagnostics technology is standard on all L-Series Backhoes. The exclusive John Deere WorkSight™ suite of telematic solutions includes JDLink™ with real-time machine monitoring and remote diagnostics to help increase uptime while lowering operating costs.

### Quick, clean filter changes

Vertical spin-on engine, transmission, and hydraulic filters and quick-release fuel filters allow fast, clean changes. Standard heavy-duty transmission oil filter increases reliability.

### More durable multipurpose bucket

Our rugged multipurpose bucket has been reinforced with thicker plates and stronger cylinder mountings for longer wear life.

### Bias and radial tire options

Choose from a variety of factory-installed tire options, for the traction, exceptional performance, and long service life your specific application requires.

### Diff-lock protection

Enabled through the monitor, differential-lock protection prevents engagement at high travel speeds and the resulting wear and tear on axle components.

### Maintenance-free batteries

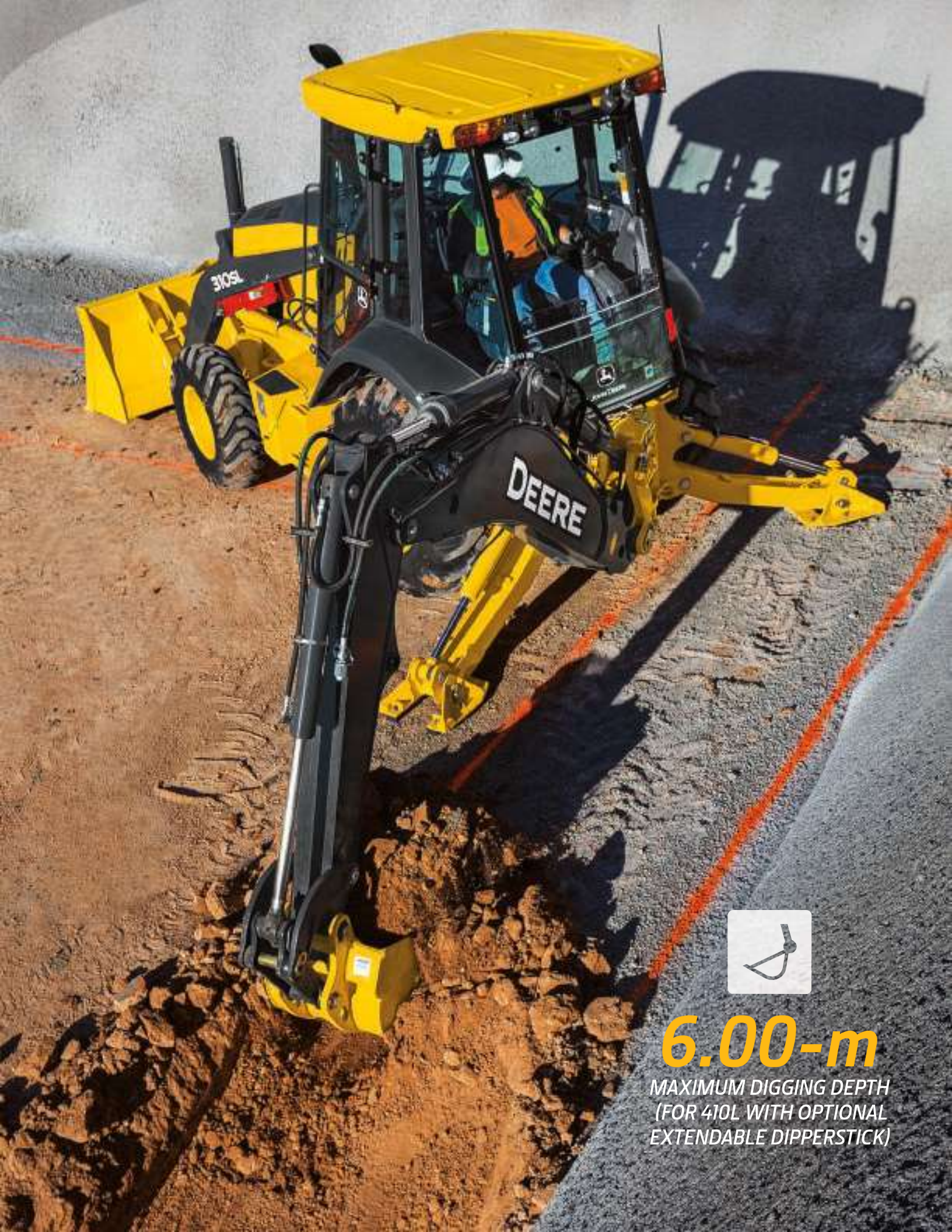
Standard maintenance-free batteries reduce periodic servicing, improve cold-starting reliability, and lengthen battery life.

### Superior hydraulic oil

L-Series Backhoes come factory-filled with Hydrau™ premium all-season, anti-wear hydraulic oil specifically designed for construction equipment. Or for cold weather, opt for Hydrau™ XR, which offers all-season protection from from -40 to 40 deg. C.

### Protect your investment

Machine-security system with touchpad passcode helps prevent unauthorized operation.



**6.00-m**

MAXIMUM DIGGING DEPTH  
(FOR 410L WITH OPTIONAL  
EXTENDABLE DIPPERSTICK)

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# **EASY MAINTENANCE**

*KEEP THE PEACE. AND YOUR PEACE OF MIND.*

## **Save fuel with economy mode**

Standard economy mode can be configured separately between loader and backhoe functions. For example, activate economy mode for backhoe functions while retaining full power for loader functions. This helps maximize fuel usage in lighter-work applications with minimal effect on machine performance.

## **Improved diagnostics**

State-of-the-art multi-language monitor clearly displays machine diagnostics. Operators can quickly and easily program a multitude of time-specific functions such as auto shutdown and auto-idle.

## **Minimize downtime and expense**

Same-side ground-level service points help speed daily checks and fills. Other commonsense features such as quick-change filters, extended service intervals, simple-to-read sight gauges, and easy-access grease zerks help increase uptime and lower daily operating costs.

## **Quick and easy A/C cleanout**

Hinged air-conditioner condenser enables convenient cleaning of the unit, for maximum efficiency.



### **Quiet, fuel-efficient fan**

Standard suction-type direct-drive fan helps conserve power and fuel, while reducing noise. A temperature-controlled (viscous) variable-speed fan option is available for all models.

### **Durable engine technology**

All L-Series models feature John Deere PowerTech 4.5L EPA Tier 3/EU Stage IIIA or Tier 2/Stage II diesel engines, providing emission solutions that are proven, integrated, simple, and supported.

### **Save fuel and reduce noise**

Auto-idle decreases engine speed when hydraulics aren't in use, to help maintain quiet working conditions and conserve precious fuel. Auto shutdown turns off the engine after an operator-selected period of inactivity, further keeping noise and fuel consumption down.



Get valuable insight with

### ***JOHN DEERE WORKSIGHT***

John Deere WorkSight is an exclusive suite of telematics solutions that increases uptime while lowering operating costs. At its heart, JDLink machine monitoring provides real-time utilization data and alerts to help you maximize productivity and efficiency while minimizing downtime. Remote diagnostics enable your dealer to read codes and record performance data without a trip to the jobsite.

Keep downtime down with

### ***JOHN DEERE ULTIMATE UPTIME***

John Deere Ultimate Uptime, featuring John Deere WorkSight, is a customizable support solution available exclusively from your Deere dealer. This flexible offering maximizes equipment availability with standard John Deere WorkSight capabilities that can help prevent future downtime and speed repairs when needed. In addition to the base John Deere WorkSight features, our dealers work with you to build an uptime package that meets the specific needs of your machine, fleet, project, and business, including customized maintenance and repair agreements, onsite parts availability, extended warranties, fluid sampling, response-time guarantees, and more.



# 310L SPECIFICATIONS

While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

Engine		310L	
Manufacturer and Model		John Deere PowerTech™ E 4045HT086 turbocharged, country specific	
Non-Road Emission Standard		EPA Tier 3/EU Stage IIIA	
Displacement		4.5 L (276 cu. in.)	
Gross Peak Power		68 kW (92 hp) at 2,000 rpm	
Power Ratings with Canopy, 130-amp Alternator, and Standard Fixed Fan			
Net Peak Power (ISO 9249)		65 kW (87 hp) at 1,960 rpm	
Net Peak Torque (ISO 9249)		374 Nm (276 lb.-ft.) at 1,300 rpm	
Net Torque Rise		46%	
Power Ratings with Cab, 130-amp Alternator, and Optional Viscous Fan			
Net Peak Power (ISO 9249)		67 kW (90 hp) at 2,000 rpm	
Net Peak Torque (ISO 9249)		379 Nm (280 lb.-ft.) at 1,300 rpm	
Net Torque Rise		40%	
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-type cooling fan standard; temperature-controlled (viscous) variable-rate fan optional	
Engine Coolant Rating		-40 deg. C (-40 deg. F)	
Engine Oil Cooler		Oil to water	
Powertrain			
Transmission		4-speed, helical-cut gears, full PowerShift™ transmission with hydraulic reverser standard; electric clutch cutoff on loader lever	
Torque Converter		Single stage, dual phase with 2.63:1 stall ratio, 280 mm (11 in.)	
Maximum Travel Speeds with Standard Engine, Measured with 19.5L-24 Rear Tires		<i>Forward</i>	<i>Reverse</i>
Gear 1		5.4 km/h (3.4 mph)	6.9 km/h (4.3 mph)
Gear 2		10.0 km/h (6.2 mph)	12.6 km/h (7.8 mph)
Gear 3		20.5 km/h (12.7 mph)	—
Gear 4		37.2 km/h (23.1 mph)	—
Axles			
Axle Oscillation, Stop to Stop, Front Axle		22 deg.	
Axle Ratings		<i>Front</i>	<i>Rear</i>
SAE J43		5000 kg (11,000 lb.)	6000 kg (13,200 lb.)
Dynamic		9000 kg (19,800 lb.)	10 000 kg (22,000 lb.)
Static		24 500 kg (54,000 lb.)	26 500 kg (58,400 lb.)
Ultimate		41 500 kg (91,500 lb.)	41 500 kg (91,500 lb.)
Differentials			
Mechanical-Front-Wheel-Drive (MFWD) Axle		Open – standard; automatic, limited-slip traction control – custom or optional	
Rear Axle		Foot actuated, hydraulically engaged 100% mechanical lock	
Steering (ISO 5010)		Hydrostatic power steering and emergency steering	
Axle		<i>MFWD</i>	<i>Non-Powered Front</i>
Curb-Turning Radius			
With Brakes		3.57 m (11 ft. 9 in.)	3.55 m (11 ft. 8 in.)
Without Brakes		4.15 m (13 ft. 7 in.)	4.12 m (13 ft. 6 in.)
Bucket-Clearance Circle			
With Brakes		9.99 m (32 ft. 9 in.)	9.98 m (32 ft. 9 in.)
Without Brakes		10.86 m (35 ft. 8 in.)	10.84 m (35 ft. 7 in.)
Steering Wheel Turns (lock to lock)		2.7	3.2
MFWD and Rear Axle		Heavy duty, outboard planetary final drives distribute shock loads over 3 gears	
Brakes (ISO 3450)			
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 system; single-gear pump	
Pump Flow at 2,200 rpm, Backhoe and Loader		106 L/m (28 gpm)	
System Relief Pressure			
Backhoe		24 993 kPa (3,625 psi)	
Loader		22 063 kPa (3,200 psi)	

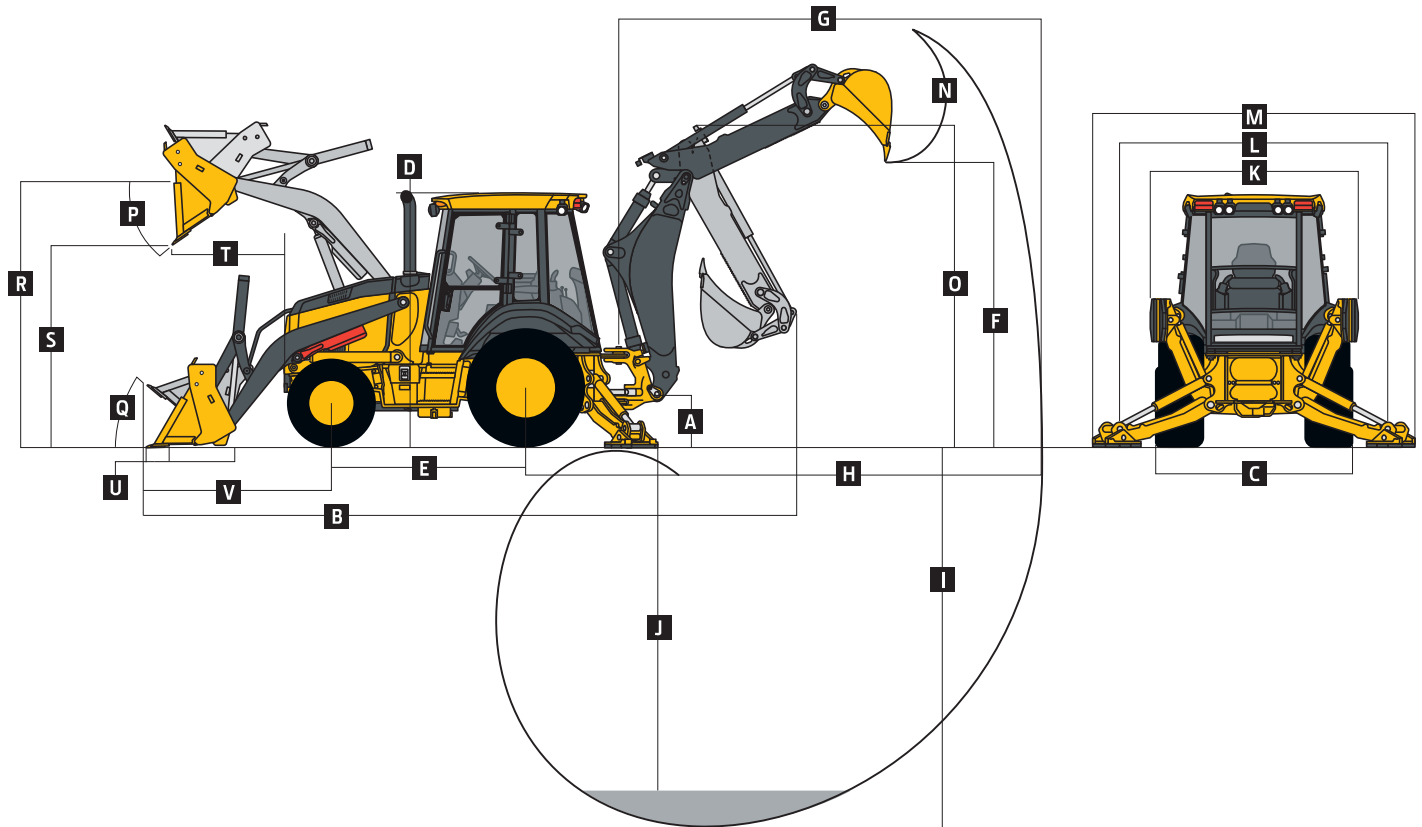
# 310L SPECIFICATIONS



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Hydraulics (continued)		310L	
Controls			
Backhoe	2-lever mechanical standard; pilot controls with pattern select and manual and/or electric auxiliary functions optional; field kits available for additional mechanical-control options		
Loader	Single-lever control with electric clutch cutoff switch standard; manual auxiliary function (2nd lever), single-lever control with electric clutch cutoff, and electrohydraulic (EH) proportional auxiliary control optional		
Cylinders			
Heat-treated, chrome-plated, polished rods; hardened steel (replaceable bushings) pivot pins			
	Bore	Rod Diameter	Stroke
Loader Boom (2)	80 mm (3,15 in.)	50 mm (1.97 in.)	790 mm (31,10 in.)
Loader Bucket (1)	90 mm (3,54 in.)	50 mm (1,97 in.)	744 mm (29,29 in.)
Backhoe Boom (1)	110 mm (4,33 in.)	56 mm (2,20 in.)	821 mm (32,32 in.)
Backhoe Crowd (1)	110 mm (4,33 in.)	63 mm (2,48 in.)	553 mm (21,77 in.)
Backhoe Bucket (1)	80 mm (3,15 in.)	50 mm (1,97 in.)	892 mm (35,12 in.)
Backhoe Swing (2)	80 mm (3,15 in.)	45 mm (1,77 in.)	310 mm (12,20 in.)
Backhoe Extendable Dipperstick (1)	63 mm (2,48 in.)	32 mm (1,26 in.)	1062 mm (41,81 in.)
Backhoe Stabilizer (2)	80 mm (3,15 in.)	50 mm (1,97 in.)	500 mm (19,69 in.)
Non-Powered Axle (1)	70 mm (2,76 in.)	42 mm (1,65 in.)	210 mm (8,27 in.)
MFWD (1)	65 mm (2,56 in.)	40 mm (1,57 in.)	210 mm (8,27 in.)
Electrical			
Voltage	12 volt		
Alternator Rating	130 amp		
Lights	10 halogen: 4 front, 4 rear, and 2 side docking (32,500 candlepower each); turn signals and flashers: 2 front and 2 rear; stop and taillights; and 2 rear reflectors; factory-installed option for 2 LED spotlights and 8 LED front floodlights in lieu of standard halogen light package		
Operator Station			
Type (SAE J1040)	Canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof; optional quarter cab (front glass only) and fully enclosed cab		
Tires/Wheels			
	Front	Rear	
Non-Powered Front Axle	12.5/80-18 F3 (12)	19.5L-24 R4 (12)	
	14.5/75-16,1 F3 (16)	19.5L-24 R4 (12)	
With MFWD	12-16.5 NHS (12)	19.5L-24 R4 (12)	
	12.5/80-18 I3 (12)	19.5L-24 R4 (10)	
	12.5/80-18 R4 (10)	19.5L-24 R4 (12)	
	12.5/80-18 I3 (12)	21L-24 R4 (12)	
	12.5/80-18 R4 (10)	21L-24 R4 (12)	
	340/80R18 XMCL	500/70R24 XMCL	
	340/80R18 550	500/70R24 550	
	340/80R18 580	500/70R24 580	
Serviceability			
Refill Capacities			
Cooling System		Fuel Tank (with ground-level fueling)	128.7 L (34 gal.)
Cab	25.7 L (27.2 qt.)	Hydraulic System	126.8 L (33.5 gal.)
Canopy	22.9 L (24.2 qt.)	Hydraulic Reservoir	45 L (11.9 gal.)
Rear Axle	18 L (19 qt.)	MFWD Housing	
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)	Axle	6.5 L (6.9 qt.)
Torque Converter and Transmission	15,1 L (16 qt.)	Planetary (each)	0.9 L (1 qt.)
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and Bumper	6545 kg (14,430 lb.)		
Typical with Cab, Extendable Dipperstick, and 204-kg (450 lb.) Counterweight	7203 kg (15,880 lb.)		
Optional Components (weight difference between base equipment and option)			
Cab	263 kg (580 lb.)	Front Loader Coupler	257 kg (566 lb.)
MFWD with Tires	168 kg (370 lb.)	Backhoe Bucket Coupler	59 kg (130 lb.)
Extendable Dipperstick	191 kg (420 lb.)		

Overall Dimensions		310L
A	Ground Clearance, Minimum	293 mm (12 in.)
B	Overall Length, Transport	7.24 m (23 ft. 9 in.)
C	Width Over Tires	2.20 m (7 ft. 3 in.)
D	Height to Top of ROPS/Cab	2.81 m (9 ft. 3 in.)
E	Length from Axle to Axle	
	Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
	MFWD Axle	2.19 m (7 ft. 2 in.)



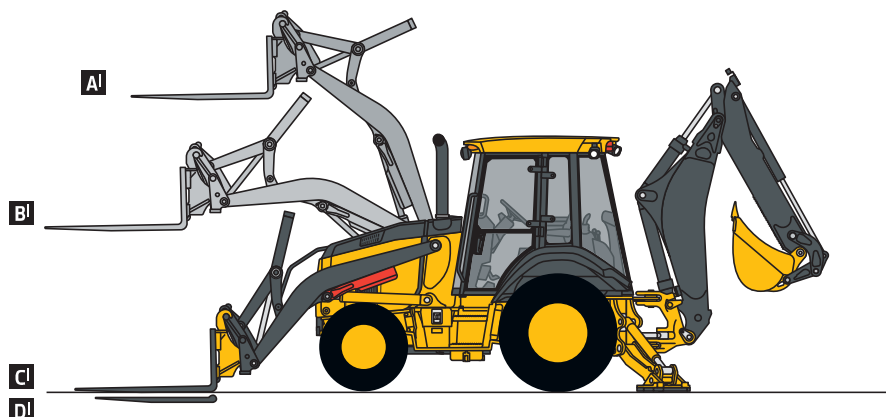
Backhoe Dimensions and Performance		310L		
Backhoe specifications are with 610-mm x 0.18-m <sup>3</sup> (24 in. x 6.5 cu. ft.) bucket; dipper lift specs are with a boom angle of 65 deg.				
Bucket Range		305–762 mm (12–30 in.)		
Digging Force				
Bucket Cylinder		48.2 kN (10,844 lb.)		
Crowd Cylinder		31.1 kN (6,992 lb.)		
Swing Arc		180 deg.		
Operator Control		2 levers		
		With Optional Extendable Dipperstick		
		With Standard Backhoe	Retracted	Extended
F	Loading Height, Truck Loading Position	3.38 m (11 ft. 1 in.)	3.46 m (11 ft. 4 in.)	4.12 m (13 ft. 6 in.)
G	Reach from Center of Swing Pivot	5.42 m (17 ft. 9 in.)	5.49 m (18 ft. 0 in.)	6.51 m (21 ft. 4 in.)
H	Reach from Center of Rear Axle	6.49 m (21 ft. 3 in.)	6.55 m (21 ft. 6 in.)	7.57 m (24 ft. 10 in.)
I	Digging Depth (SAE maximum)	4.30 m (14 ft. 1 in.)	4.38 m (14 ft. 4 in.)	5.43 m (17 ft. 10 in.)
J	Digging Depth (SAE)			
	610-mm (2 ft.) Flat Bottom	4.27 m (14 ft. 0 in.)	4.34 m (14 ft. 3 in.)	5.40 m (17 ft. 9 in.)
	2440-mm (8 ft.) Flat Bottom	3.93 m (12 ft. 11 in.)	4.01 m (13 ft. 2 in.)	5.15 m (16 ft. 11 in.)
K	Stabilizer Width, Transport	2.18 m (7 ft. 2 in.)	2.18 m (7 ft. 2 in.)	2.18 m (7 ft. 2 in.)
L	Stabilizer Spread, Operating	3.10 m (10 ft. 2 in.)	3.10 m (10 ft. 2 in.)	3.10 m (10 ft. 2 in.)
M	Stabilizer Overall Width, Operating	3.53 m (11 ft. 7 in.)	3.53 m (11 ft. 7 in.)	3.53 m (11 ft. 7 in.)
N	Bucket Rotation	190 deg.	190 deg.	190 deg.
O	Transport Height	3.39 m (11 ft. 1 in.)	3.39 m (11 ft. 1 in.)	3.39 m (11 ft. 1 in.)

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Loader Dimensions and Performance		310L			
<b>P</b>	Bucket Dump Angle, Maximum	45 deg.			
<b>Q</b>	Rollback Angle at Ground Level	40 deg.			
		<i>Heavy-duty</i>	<i>Heavy-duty</i>	<i>Heavy-duty long lip</i>	<i>Multipurpose</i>
	Bucket Capacity	0,77 m <sup>3</sup> (1,00 cu. yd.)	0,86 m <sup>3</sup> (1,12 cu. yd.)	0,96 m <sup>3</sup> (1,25 cu. yd.)	0,96 m <sup>3</sup> (1,25 cu. yd.)
	Width	2184 mm (86 in.)	2184 mm (86 in.)	2184 mm (86 in.)	2184 mm (86 in.)
	Weight	363 kg (800 lb.)	390 kg (860 lb.)	405 kg (892 lb.)	794 kg (1,750 lb.)
	Breakout Force	41,6 kN (9,361 lb.)	42,3 kN (9,512 lb.)	40,0 kN (8,983 lb.)	37,0 kN (8,321 lb.)
	Lift Capacity, Full Height	2919 kg (6,435 lb.)	2995 kg (6,602 lb.)	2760 kg (6,085 lb.)	2427 kg (5,352 lb.)
<b>R</b>	Height to Bucket Hinge Pin, Maximum	3,48 m (11 ft. 5 in.)	3,48 m (11 ft. 5 in.)	3,48 m (11 ft. 5 in.)	3,48 m (11 ft. 5 in.)
<b>S</b>	Dump Clearance, Bucket at 45 deg.	2,74 m (9 ft. 0 in.)	2,78 m (9 ft. 1 in.)	2,68 m (8 ft. 9 in.)	2,68 m (8 ft. 9 in.)
<b>T</b>	Reach at Full Height, Bucket at 45 deg.	702 mm (27,7 in.)	667 mm (26,3 in.)	793 mm (31,2 in.)	705 mm (27,8 in.)
<b>U</b>	Digging Depth Below Ground, Bucket Level	70 mm (2,8 in.)	71 mm (2,8 in.)	51 mm (2,0 in.)	111 mm (4,4 in.)
<b>V</b>	Length from Front Axle Centerline to Bucket Cutting Edge	2,02 m (6 ft. 8 in.)	1,97 m (6 ft. 6 in.)	2,12 m (6 ft. 11 in.)	2,10 m (6 ft. 11 in.)

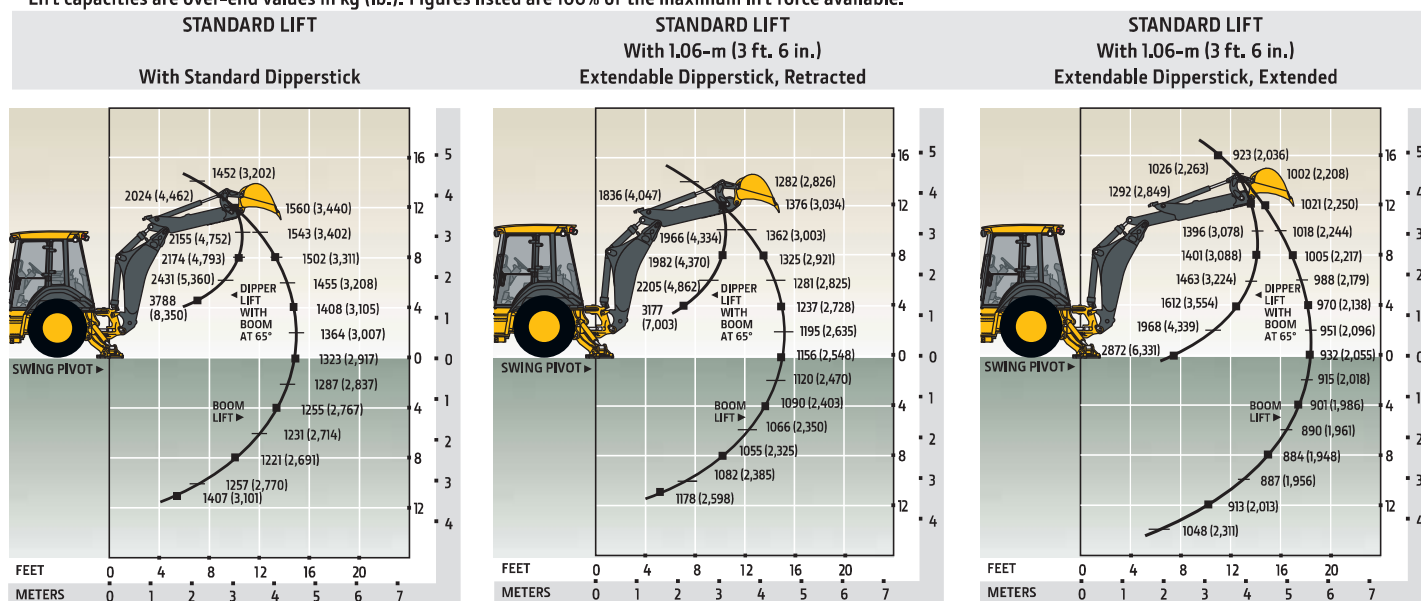
#### Lift Capacity with Quick-Coupler Forks

Hydraulic Capacity		1219-mm (48 in.) Tines	1524-mm (60 in.) Tines
<b>A<sup>1</sup></b>	Maximum Height	1711 kg (3,772 lb.)	1592 kg (3,510 lb.)
<b>B<sup>1</sup></b>	Maximum Reach	2690 kg (5,931 lb.)	2530 kg (5,578 lb.)
<b>C<sup>1</sup></b>	At Ground Line	3393 kg (7,480 lb.)	3203 kg (7,061 lb.)
<b>D<sup>1</sup></b>	Below Ground Line	185 mm (7,3 in.)	185 mm (7,3 in.)



#### Lift Capacities

Lift capacities are over-end values in kg (lb.). Figures listed are 100% of the maximum lift force available.



\*Indicates capacity is stability limited. Lift capacities are over end with stabilizers down and tires tangent to ground.

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# 310SL

## SPECIFICATIONS

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Engine	310SL			
Manufacturer and Model	John Deere PowerTech™ 4045TT096 turbocharged	John Deere PowerTech™ E 4045HT086 turbocharged, country specific	John Deere PowerTech™ Plus 4045HT085 turbocharged, country specific, optimized for high-altitude performance	
Non-Road Emission Standard	EPA Tier 2/EU Stage II	EPA Tier 3/EU Stage IIIA	Non-regulated	
Displacement	4.5 L (276 cu. in.)	4.5 L (276 cu. in.)	4.5 L (276 cu. in.)	
Gross Peak Power	73 kW (98 hp) at 2,000 rpm	75 kW (100 hp) at 1,990 rpm	75 kW (100 hp) at 1,990 rpm	
Power Ratings with Canopy, 130-amp Alternator, and Standard Fixed Fan				
Net Peak Power (ISO 9249)	69 kW (93 hp) at 1,970 rpm	71 kW (95 hp) at 1,900 rpm	71 kW (95 hp) at 1,900 rpm	
Net Peak Torque (ISO 9249)	386 Nm (285 lb.-ft.) at 1,300 rpm	395 Nm (291 lb.-ft.) at 1,500 rpm		
Net Torque Rise	46%	44%	44%	
Power Ratings with Cab, 130-amp Alternator, and Optional Viscous Fan				
Net Peak Power (ISO 9249)	72 kW (97 hp) at 2,000 rpm	73 kW (98 hp) at 1,980 rpm	73 kW (98 hp) at 1,980 rpm	
Net Peak Torque (ISO 9249)	392 Nm (289 lb.-ft.) at 1,300 rpm	402 Nm (297 lb.-ft.) at 1,500 rpm		
Net Torque Rise	39%	39%	39%	
Lubrication	Pressure system with spin-on filter and cooler		Pressure system with spin-on filter and cooler	
Air Cleaner	Dual-stage dry type with safety element and evacuator valve	Dual-stage dry type with safety element and evacuator valve		
Cooling				
Fan Type	Suction-type cooling fan standard; temperature-controlled (viscous) variable-rate fan optional			
Engine Coolant Rating	−40 deg. C (−40 deg. F)			
Engine Oil Cooler	Oil to water			
Powertrain				
Transmission	5-speed, helical-cut gears, full PowerShift™ transmission with hydraulic reverser standard; electric clutch cutoff on loader lever; AutoShift transmission optional			
Torque Converter	Single stage, dual phase with 2.63:1 stall ratio, 280 mm (11 in.)			
Maximum Travel Speeds with Standard Engine, Measured with 19.5L-24 Rear Tires	Forward	Reverse	Forward	Reverse
Gear 1	5.4 km/h (3.4 mph)	6.8 km/h (4.2 mph)	5.4 km/h (3.4 mph)	6.8 km/h (4.2 mph)
Gear 2	10.0 km/h (6.2 mph)	12.6 km/h (7.8 mph)	9.9 km/h (6.2 mph)	12.5 km/h (7.8 mph)
Gear 3	20.6 km/h (12.8 mph)	20.3 km/h (12.6 mph)	20.5 km/h (12.7 mph)	20.2 km/h (12.6 mph)
Gear 4	37.7 km/h (23.4 mph)	—	37.3 km/h (23.2 mph)	—
Gear 5	40.0 km/h (24.9 mph)	—	40.0 km/h (24.9 mph)	—
Axles				
Axle Oscillation, Stop to Stop, Front Axle	22 deg.		22 deg.	
Axle Ratings	Front	Rear		
SAE J43	5500 kg (12,100 lb.)	7000 kg (15,400 lb.)		
Dynamic	9000 kg (19,800 lb.)	10 000 kg (22,000 lb.)		
Static	24 500 kg (54,000 lb.)	26 500 kg (58,400 lb.)		
Ultimate	39 500 kg (87,100 lb.)	41 500 kg (91,500 lb.)		
Differentials				
Mechanical-Front-Wheel-Drive (MFWD) Axle	Automatic, limited-slip traction control			
Rear Axle	Foot actuated, hydraulically engaged 100% mechanical lock			
Steering (ISO 5010)	Hydrostatic power steering and emergency steering			
Axle	MFWD	Non-Powered Front		
Curb-Turning Radius				
With Brakes	3.58 m (11 ft. 9 in.)	3.56 m (11 ft. 8 in.)		
Without Brakes	4.20 m (13 ft. 9 in.)	4.17 m (13 ft. 8 in.)		
Bucket-Clearance Circle				
With Brakes	10.23 m (33 ft. 7 in.)	10.22 m (33 ft. 6 in.)		
Without Brakes	11.15 m (36 ft. 7 in.)	11.13 m (36 ft. 6 in.)		
Steering Wheel Turns (lock to lock)	2.7	3.2		
MFWD and Rear Axle	Heavy duty, outboard planetary final drives distribute shock loads over 3 gears			
Brakes (ISO 3450)				
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 system; tandem gear pump with unloader			
Pump Flow at 2,200 rpm				
Backhoe	136 L/m (36 gpm)			
Loader	106 L/m (28 gpm)			
System Relief Pressure, Backhoe and Loader	24 993 kPa (3,625 psi)			

# 310SL

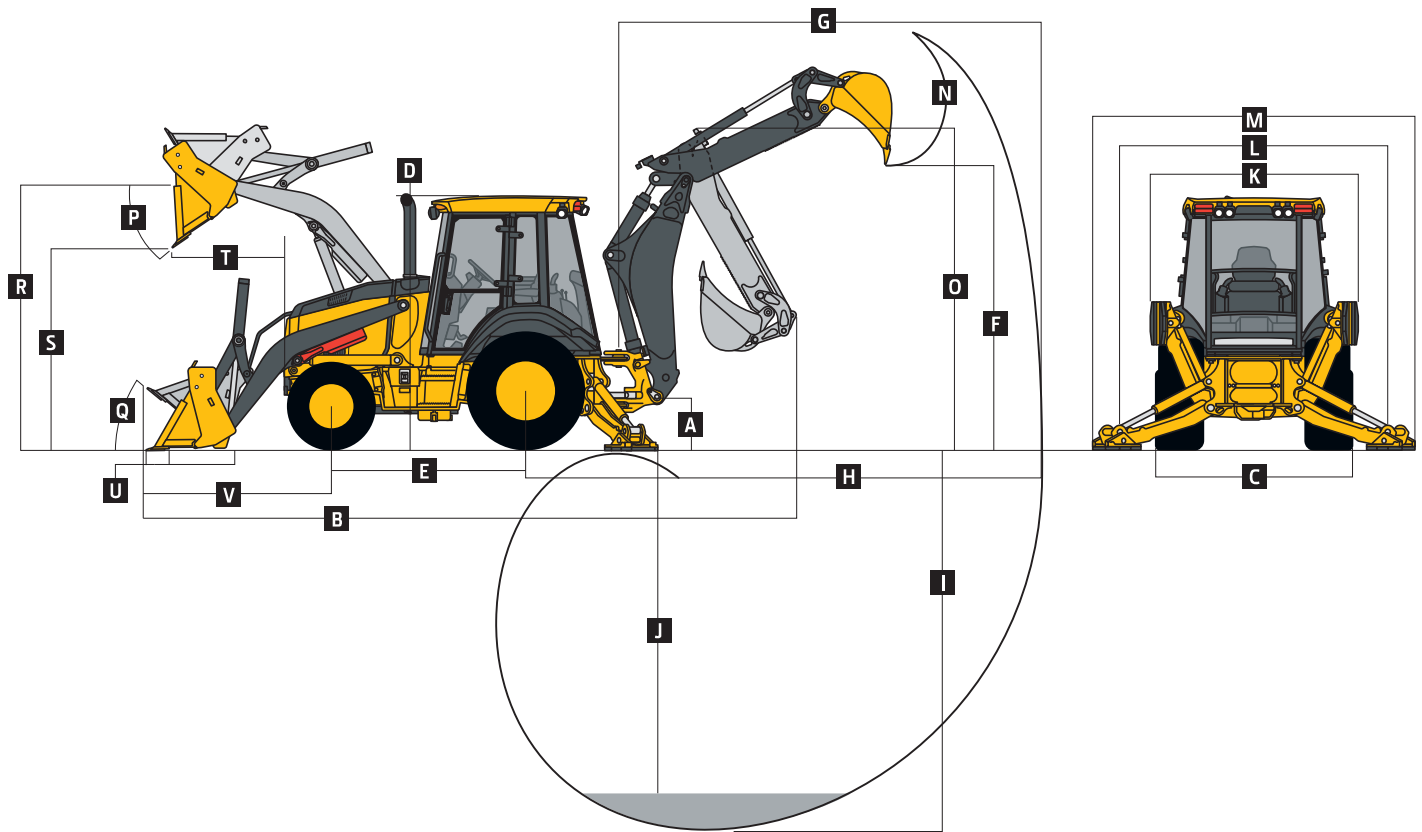
## SPECIFICATIONS



While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

Hydraulics (continued)		310SL	
Controls			
Backhoe	2-lever mechanical standard; pilot control with pattern select and auxiliary functions optional; field kits available for additional mechanical-control options		
Loader	Single-lever control with electric clutch cutoff switch and MFWD (momentary) standard; single-lever control with electric clutch cutoff switch, electrohydraulic (EH) proportional auxiliary roller, MFWD (momentary), and transmission quick-shift optional		
Cylinders			
Heat-treated, chrome-plated, polished rods; hardened steel (replaceable bushings) pivot pins			
	Bore	Rod Diameter	Stroke
Loader Boom (2)	80 mm (3.15 in.)	50 mm (1.97 in.)	789 mm (31.08 in.)
Loader Bucket (1)	90 mm (3.54 in.)	50 mm (1.97 in.)	744 mm (29.29 in.)
Backhoe Boom (1)	120 mm (4.72 in.)	56 mm (2.20 in.)	794 mm (31.26 in.)
Backhoe Crowd (1)	115 mm (4.53 in.)	63 mm (2.48 in.)	602.5 mm (23.72 in.)
Backhoe Bucket (1)	90 mm (3.54 in.)	56 mm (2.20 in.)	810 mm (31.89 in.)
Heavy-Duty Option	100 mm (3.94 in.)	63 mm (2.48 in.)	810 mm (31.89 in.)
Backhoe Swing (2)	90 mm (3.54 in.)	50 mm (1.97 in.)	278 mm (10.94 in.)
Backhoe Extendable Dipperstick (1)	70 mm (2.76 in.)	40 mm (1.57 in.)	1062 mm (41.81 in.)
Backhoe Stabilizer (2)			
Standard	90 mm (3.54 in.)	50 mm (1.97 in.)	500 mm (19.69 in.)
Optional Extended Leg	100 mm (3.94 in.)	50 mm (1.97 in.)	500 mm (19.69 in.)
Non-Powered Axle (1)	70 mm (2.76 in.)	42 mm (1.65 in.)	210 mm (8.27 in.)
MFWD (1)	65 mm (2.56 in.)	40 mm (1.57 in.)	210 mm (8.27 in.)
Electrical			
Voltage	12 volt		
Alternator Rating	130 amp		
Lights	10 halogen: 4 front, 4 rear, and 2 side docking (32,500 candlepower each); turn signals and flashers: 2 front and 2 rear; stop and taillights; and 2 rear reflectors; factory-installed option for 2 LED spotlights and 8 LED front floodlights in lieu of standard halogen light package		
Operator Station			
Type (SAE J1040)	Canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof; optional quarter cab (front glass only) and fully enclosed cab		
Tires/Wheels			
	Front	Rear	
Non-Powered Front Axle	12.5/80-18 F3 (12)	19.5L-24 R4 (12)	
	14.5/75-16.1 F3 (16)	19.5L-24 R4 (12)	
With MFWD	12.5/80-18 I3 (12)	19.5L-24 R4 (10)	
	12.5/80-18 R4 (10)	19.5L-24 R4 (12)	
	12.5/80-18 I3 (12)	21L-24 R4 (12)	
	12.5/80-18 R4 (10)	21L-24 R4 (12)	
	340/80R18 XMCL	500/70R24 XMCL	
	340/80R18 550	500/70R24 550	
	340/80R18 580	500/70R24 580	
Serviceability			
Refill Capacities	EPA Tier 2/EU Stage II	EPA Tier 3/EU Stage IIIA	
Cooling System			
Cab	23.8 L (25.1 qt.)	25.7 L (27.2 qt.)	
Canopy	21 L (22.2 qt.)	22.9 L (24.2 qt.)	
Rear Axle	18 L (19 qt.)	18 L (19 qt.)	
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)	13 L (13.7 qt.)	
Torque Converter and Transmission	15.1 L (16 qt.)	15.1 L (16 qt.)	
Fuel Tank (with ground-level fueling)	128.7 L (34 gal.)	128.7 L (34 gal.)	
Hydraulic System	126.8 L (33.5 gal.)	126.8 L (33.5 gal.)	
Hydraulic Reservoir	45 L (11.9 gal.)	45 L (11.9 gal.)	
MFWD Housing			
Axle	6.5 L (6.9 qt.)	6.5 L (6.9 qt.)	
Planetary (each)	0.9 L (1 qt.)	0.9 L (1 qt.)	
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and Bumper	7091 kg (15,633 lb.)		
Typical with Cab, Extendable Dipperstick, and 340-kg (750 lb.) Counterweight	7917 kg (17,453 lb.)		
Optional Components (weight difference between base equipment and option)			
Cab	263 kg (580 lb.)	Front Loader Coupler	257 kg (566 lb.)
MFWD with Tires	220 kg (485 lb.)	Backhoe Bucket Coupler	63 kg (138 lb.)
Extendable Dipperstick	222 kg (490 lb.)		

Overall Dimensions		310SL
A	Ground Clearance, Minimum	330 mm (13 in.)
B	Overall Length, Transport	7.28 m (23 ft. 11 in.)
C	Width Over Tires	2.20 m (7 ft. 3 in.)
D	Height to Top of ROPS/Cab	2.79 m (9 ft. 2 in.)
E	Length from Axle to Axle	
	Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
	MFWD Axle	2.19 m (7 ft. 2 in.)



Backhoe Dimensions and Performance		310SL		
Backhoe specifications are with 610-mm x 0.21-m <sup>3</sup> (24 in. x 7.5 cu. ft.) bucket; dipper lift specs are with a boom angle of 65 deg.				
Bucket Range		305–762 mm (12–30 in.)		
Digging Force				
Bucket Cylinder		55.0 kN (12,356 lb.)		
With Heavy-Duty Cylinder Option		67.8 kN (15,254 lb.)		
Crowd Cylinder		36.6 kN (8,229 lb.)		
Swing Arc		180 deg.		
Operator Control		2 levers		
		With Optional Extendable Dipperstick		
		With Standard Backhoe	Retracted	Extended
F	Loading Height, Truck Loading Position	3.42 m (11 ft. 3 in.)	3.54 m (11 ft. 7 in.)	4.16 m (13 ft. 8 in.)
G	Reach from Center of Swing Pivot	5.52 m (18 ft. 1 in.)	5.61 m (18 ft. 5 in.)	6.62 m (21 ft. 9 in.)
H	Reach from Center of Rear Axle	6.58 m (21 ft. 7 in.)	6.68 m (21 ft. 11 in.)	7.68 m (25 ft. 2 in.)
I	Digging Depth (SAE maximum)	4.35 m (14 ft. 3 in.)	4.50 m (14 ft. 9 in.)	5.55 m (18 ft. 2 in.)
J	Digging Depth (SAE)			
	610-mm (2 ft.) Flat Bottom	4.32 m (14 ft. 2 in.)	4.45 m (14 ft. 7 in.)	5.51 m (18 ft. 1 in.)
	2440-mm (8 ft.) Flat Bottom	3.99 m (13 ft. 1 in.)	4.13 m (13 ft. 7 in.)	5.25 m (17 ft. 3 in.)
K	Stabilizer Width, Transport	2.18 m (7 ft. 2 in.)	2.18 m (7 ft. 2 in.)	2.18 m (7 ft. 2 in.)
L	Stabilizer Spread, Operating			
	Standard Stabilizers	3.10 m (10 ft. 2 in.)	3.10 m (10 ft. 2 in.)	3.10 m (10 ft. 2 in.)
	Long Stabilizers	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)
M	Stabilizer Overall Width, Operating			
	Standard Stabilizers	3.53 m (11 ft. 7 in.)	3.53 m (11 ft. 7 in.)	3.53 m (11 ft. 7 in.)
	Long Stabilizers	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)

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## Backhoe Dimensions and Performance (continued)

310SL

With Optional Extendable Dipperstick

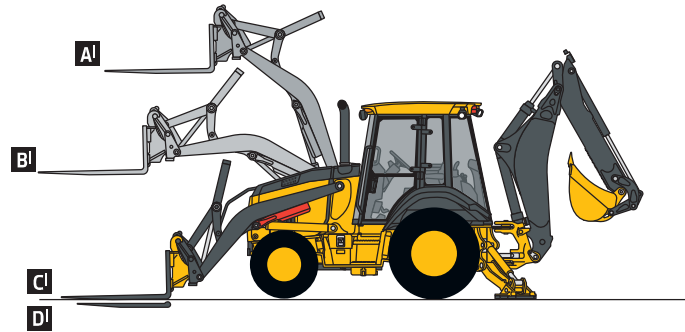
	With Standard Backhoe	Retracted	Extended
<b>N</b> Bucket Rotation	190 deg.	190 deg.	190 deg.
<b>O</b> Transport Height	3.48 m (11 ft. 5 in.)	3.49 m (11 ft. 5 in.)	3.49 m (11 ft. 5 in.)

## Loader Dimensions and Performance

<b>P</b> Bucket Dump Angle, Maximum	45 deg.			
<b>Q</b> Rollback Angle at Ground Level	40 deg.			
	Heavy-duty	Heavy-duty long lip	Heavy-duty	Multipurpose
Bucket Capacity	0.86 m <sup>3</sup> (1.12 cu. yd.)	0.96 m <sup>3</sup> (1.25 cu. yd.)	1.00 m <sup>3</sup> (1.31 cu. yd.)	1.00 m <sup>3</sup> (1.31 cu. yd.)
Width	2184 mm (86 in.)	2184 mm (86 in.)	2337 mm (92 in.)	2337 mm (92 in.)
Weight	390 kg (860 lb.)	405 kg (892 lb.)	521 kg (1,148 lb.)	863 kg (1,902 lb.)
Breakout Force	49.2 kN (11,052 lb.)	46.4 kN (10,442 lb.)	46.9 kN (10,541 lb.)	43.2 kN (9,722 lb.)
Lift Capacity, Full Height	3492 kg (7,698 lb.)	3224 kg (7,108 lb.)	3352 kg (7,390 lb.)	2862 kg (6,309 lb.)
<b>R</b> Height to Bucket Hinge Pin, Maximum	3.47 m (11 ft. 5 in.)	3.47 m (11 ft. 5 in.)	3.47 m (11 ft. 5 in.)	3.47 m (11 ft. 5 in.)
<b>S</b> Dump Clearance, Bucket at 45 deg.	2.76 m (9 ft. 1 in.)	2.66 m (8 ft. 9 in.)	2.70 m (8 ft. 10 in.)	2.67 m (8 ft. 9 in.)
<b>T</b> Reach at Full Height, Bucket at 45 deg.	678 mm (26.7 in.)	804 mm (31.7 in.)	675 mm (26.6 in.)	716 mm (28.2 in.)
<b>U</b> Digging Depth Below Ground, Bucket Level	83 mm (3.3 in.)	64 mm (2.5 in.)	128 mm (5.0 in.)	124 mm (4.9 in.)
<b>V</b> Length from Front Axle Centerline to Bucket Cutting Edge	1.96 m (6 ft. 5 in.)	2.10 m (6 ft. 11 in.)	2.03 m (6 ft. 8 in.)	2.08 m (6 ft. 10 in.)

## Lift Capacity with Quick-Coupler Forks

<b>Hydraulic Capacity</b>	1219-mm (48 in.) Tines	1524-mm (60 in.) Tines
<b>A</b> Maximum Height	2067 kg (4,558 lb.)	1932 kg (4,260 lb.)
<b>B</b> Maximum Reach	3183 kg (7,017 lb.)	3001 kg (6,617 lb.)
<b>C</b> At Ground Line	4020 kg (8,863 lb.)	3768 kg (8,306 lb.)
<b>D</b> Below Ground Line	198 mm (7.8 in.)	198 mm (7.8 in.)

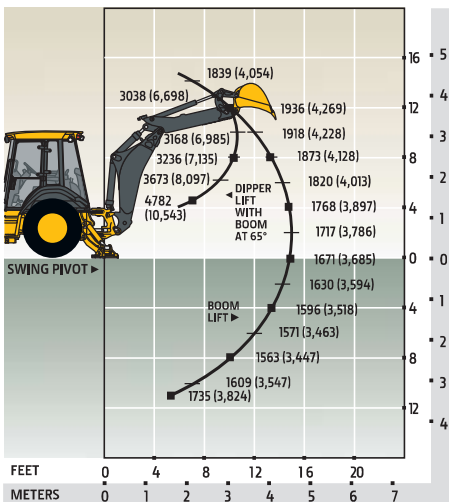


## Lift Capacities

Lift capacities are over-end values in kg (lb.). Figures listed are 100% of the maximum lift force available.

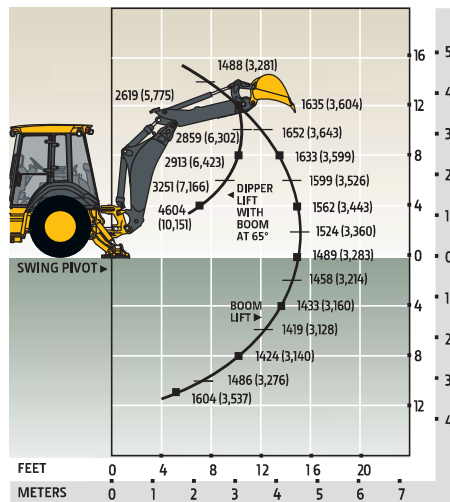
### STANDARD LIFT

With Standard Dipperstick



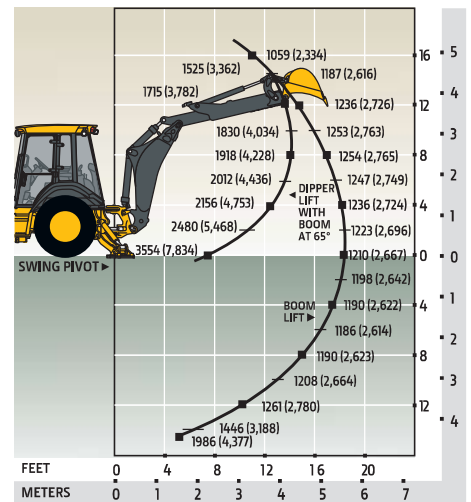
### STANDARD LIFT

With 1.06-m (3 ft. 6 in.)  
Extendable Dipperstick, Retracted



### STANDARD LIFT

With 1.06-m (3 ft. 6 in.)  
Extendable Dipperstick, Extended



\*Indicates capacity is stability limited. Lift capacities are over end with stabilizers down and tires tangent to ground.

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# 315SL SPECIFICATIONS

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Engine		315SL	
Manufacturer and Model		John Deere PowerTech™ 4045TT096 turbocharged	John Deere PowerTech™ E 4045HT086 turbocharged
Non-Road Emission Standard		EPA Tier 2/EU Stage II	EPA Tier 3/EU Stage IIIA
Displacement		4.5 L (276 cu. in.)	4.5 L (276 cu. in.)
Gross Peak Power		73 kW (98 hp ) at 2,000 rpm	75 kW (100 hp) at 1,990 rpm
Power Ratings with Cab, 130-amp Alternator, and Standard Fixed Fan			
Net Peak Power (ISO 9249)		69 kW (93 hp) at 1,970 rpm	71 kW (95 hp) at 1,900 rpm
Net Peak Torque (ISO 9249)		386 Nm (285 lb.-ft.) at 1,300 rpm	395 Nm (291 lb.-ft.) at 1,500 rpm
Net Torque Rise		46%	44%
Power Ratings with Cab, 130-amp Alternator, and Optional Viscous Fan			
Net Peak Power (ISO 9249)		72 kW (97 hp) at 2,000 rpm	73 kW (98 hp) at 1,980 rpm
Net Peak Torque (ISO 9249)		392 Nm (289 lb.-ft.) at 1,400 rpm	402 Nm (297 lb.-ft.) at 1,500 rpm
Net Torque Rise		39%	39%
Lubrication		Pressure system with spin-on filter and cooler	Pressure system with spin-on filter and cooler
Air Cleaner		Dual-stage dry type with safety element and evacuator valve	Dual-stage dry type with safety element and evacuator valve
Cooling			
Fan Type		Suction-type cooling fan standard; temperature-controlled (viscous) variable-rate fan optional	
Engine Coolant Rating		-40 deg. C (-40 deg. F)	
Engine Oil Cooler		Oil to water	
Powertrain			
Transmission		5-speed, helical-cut gears, full PowerShift™ transmission with hydraulic reverser standard; electric clutch cutoff on loader lever; AutoShift transmission optional	
Torque Converter		Single stage, dual phase with 2.63:1 stall ratio, 280 mm (11 in.)	
Maximum Travel Speeds with Standard Engine, Measured with 16.9-28 Rear Tires		<i>Forward</i>	<i>Reverse</i>
Gear 1		5.8 km/h (3.6 mph)	7.3 km/h (4.5 mph)
Gear 2		10.7 km/h (6.6 mph)	13.5 km/h (8.4 mph)
Gear 3		22.0 km/h (13.7 mph)	21.7 km/h (13.5 mph)
Gear 4		40.0 km/h (24.9 mph)	—
Gear 5		40.0 km/h (24.9 mph)	—
Axles			
Axle Oscillation, Stop to Stop, Front Axle		22 deg.	
Axle Ratings		<i>Front</i>	<i>Rear</i>
SAE J43		5500 kg (12,100 lb.)	7500 kg (16,500 lb.)
Dynamic		9000 kg (19,800 lb.)	10 000 kg (22,000 lb.)
Static		24 500 kg (54,000 lb.)	26 500 kg (58,400 lb.)
Ultimate		39 500 kg (87,100 lb.)	39 500 kg (87,100 lb.)
Differentials			
Mechanical-Front-Wheel-Drive (MFWD) Axle		Open – standard; automatic, limited-slip traction control – custom or optional	
Rear Axle		Foot actuated, hydraulically engaged 100% mechanical lock	
Steering (ISO 5010)		Hydrostatic power steering and emergency steering	
Axle		<i>MFWD</i>	<i>Non-Powered Front</i>
Curb-Turning Radius			
With Brakes		3.53 m (11 ft. 7 in.)	3.45 m (11 ft. 4 in.)
Without Brakes		4.02 m (13 ft. 2 in.)	3.90 m (12 ft. 10 in.)
Bucket-Clearance Circle			
With Brakes		10.09 m (33 ft. 1 in.)	10.02 m (32 ft. 10 in.)
Without Brakes		10.82 m (35 ft. 6 in.)	10.68 m (35 ft. 0 in.)
Steering Wheel Turns (lock to lock)		3.6	4.3
MFWD Axle		Heavy duty, outboard planetary final drives distribute shock loads over 3 gears	
Rear Axle		Heavy duty, outboard planetary final drives distribute shock loads over 4 gears	
Brakes (ISO 3450)			
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 system; tandem gear pump with unloader	
Pump Flow at 2,200 rpm			
Backhoe		136 L/m (36 gpm)	
Loader		106 L/m (28 gpm)	
System Relief Pressure, Backhoe and Loader		24 993 kPa (3,625 psi)	

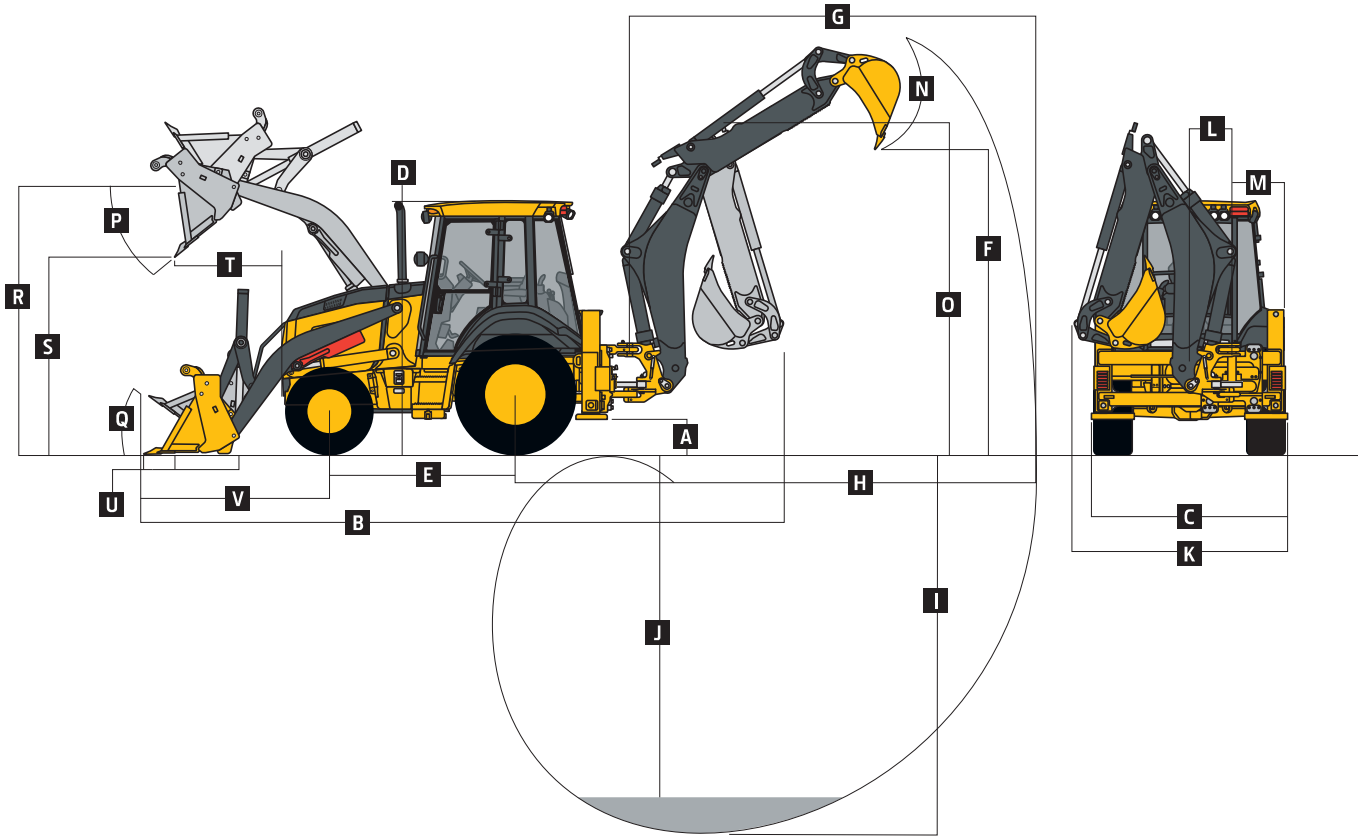
# 315SL SPECIFICATIONS



While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

Hydraulics (continued)		315SL	
Controls			
Backhoe	2-lever mechanical standard, pilot controls with pattern select and manual and/or electric auxiliary functions optional		
Loader	Single-lever control with electric clutch cutoff switch standard; manual auxiliary function (2nd lever), single-lever control with electric clutch cutoff switch, electrohydraulic (EH) proportional auxiliary roller, MWFD (momentary), and transmission quick-shift optional		
Cylinders			
Heat-treated, chrome-plated, polished rods; hardened steel (replaceable bushings) pivot pins			
	Bore	Rod Diameter	Stroke
Loader Boom (2)	80 mm (3.15 in.)	50 mm (1.97 in.)	790 mm (31.10 in.)
Loader Bucket (1)	90 mm (3.54 in.)	50 mm (1.97 in.)	744 mm (29.29 in.)
Backhoe Boom (1)	120 mm (4.72 in.)	56 mm (2.20 in.)	795 mm (31.30 in.)
Backhoe Crowd (1)	115 mm (4.53 in.)	63 mm (2.48 in.)	622 mm (24.47 in.)
Backhoe Bucket (1)	90 mm (3.54 in.)	56 mm (2.20 in.)	810 mm (31.89 in.)
Backhoe Bucket, Heavy-Duty Option (1)	100 mm (3.94 in.)	63 mm (2.48 in.)	810 mm (31.89 in.)
Backhoe Swing (2)	90 mm (3.54 in.)	50 mm (1.97 in.)	278 mm (10.94 in.)
Backhoe Extendable Dipperstick (1)	70 mm (2.76 in.)	40 mm (1.57 in.)	1062 mm (41.81 in.)
Backhoe Stabilizer, Standard (2)	70 mm (2.76 in.)	45 mm (1.77 in.)	716 mm (28.19 in.)
Non-Powered Axle (1)	70 mm (2.76 in.)	42 mm (1.65 in.)	210 mm (8.27 in.)
MWFD (1)	65 mm (2.56 in.)	40 mm (1.57 in.)	210 mm (8.27 in.)
Electrical			
Voltage	12 volt		
Alternator Rating	130 amp		
Lights	10 halogen: 4 front, 4 rear, and 2 side docking (32,500 candlepower each); turn signals and flashers: 2 front and 2 rear; stop and taillights; and 2 rear reflectors; front drive lamps with 55/60-watt halogen, plate lamp, reverse lamp, and front marker lamps; factory-installed option for 2 LED spotlights and 8 LED front floodlights in lieu of standard halogen light package		
Operator Station			
Type (SAE J1040)	Cab, isolation mounted, ROPS/FOPS, left/right access, with molded roof		
Tires/Wheels			
	Front	Rear	
Non-Powered Front Axle	12.5/80-18 F3 (12)	19.5L-24 R4 (12)	
	14.5/75-16.1 F3 (16)	19.5L-24 R4 (12)	
	12.5/80-18 F3 (12)	16.9L-28 R4 (12)	
With MWFD	12.5/80-18 I3 (12)	19.5L-24 R4 (10)	
	12.5/80-18 R4 (10)	19.5L-24 R4 (12)	
	12.5/80-18 I3 (12)	21L-24 R4 (12)	
	12.5/80-18 R4 (10)	21L-24 R4 (12)	
	12.5/80-18 R4 (10)	16.9L-28 R4 (12)	
	340/80R18 XMCL	500/70R24 XMCL	
	340/80R18 550	500/70R24 550	
	340/80R18 580	500/70R24 580	
	340/80R18 550	440/80R28 550	
Serviceability			
Refill Capacities	EPA Tier 2/EU Stage II	EPA Tier 3/EU Stage IIIA	
Cooling System			
Cab	23.8 L (25.1 qt.)	25.7 L (27.2 qt.)	
Canopy	21 L (22.2 qt.)	22.9 L (24.2 qt.)	
Rear Axle	18 L (19 qt.)	18 L (19 qt.)	
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)	13 L (13.7 qt.)	
Torque Converter and Transmission	15.1 L (16 qt.)	15.1 L (16 qt.)	
Fuel Tank (with ground-level fueling)	128.7 L (34 gal.)	128.7 L (34 gal.)	
Hydraulic System	126.8 L (33.5 gal.)	126.8 L (33.5 gal.)	
Hydraulic Reservoir	45 L (11.9 gal.)	45 L (11.9 gal.)	
MWFD Housing			
Axle	6.5 L (6.9 qt.)	6.5 L (6.9 qt.)	
Planetary (each)	0.9 L (1 qt.)	0.9 L (1 qt.)	
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, and Standard Equipment	7854 kg (17,315 lb.)		
Typical with Extendable Dipperstick and 204-kg (450 lb.) Counterweight	8280 kg (18,255 lb.)		
Optional Components (weight difference between base equipment and option)			
MWFD with Tires	220 kg (485 lb.)		
Extendable Dipperstick	222 kg (490 lb.)		

Overall Dimensions		315SL
A	Ground Clearance, Minimum	351 mm (14 in.)
B	Overall Length, Transport	5.96 m (19 ft. 7 in.)
C	Stabilizer Spread	2.26 m (7 ft. 5 in.)
D	Height to Top of ROPS/Cab	2.84 m (9 ft. 4 in.)
E	Length from Axle to Axle	
	Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
	MFWD Axle	2.19 m (7 ft. 2 in.)



## Backhoe Dimensions and Performance

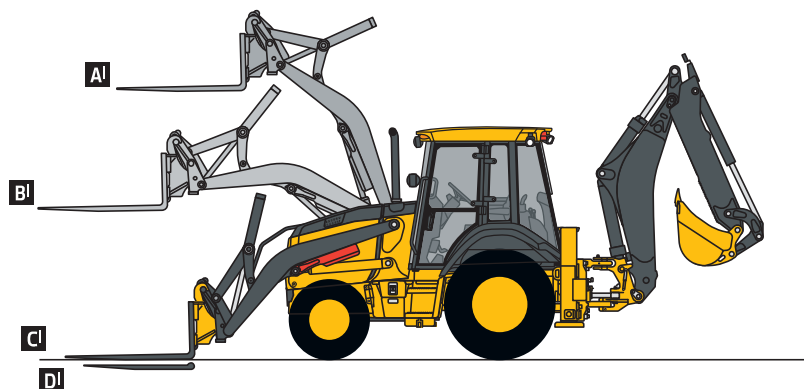
Backhoe specifications are with 610-mm x 0.21-m³ (24 in. x 7.5 cu. ft.) bucket; dipper lift specs are with a boom angle of 65 deg.

Bucket Range		305–762 mm (12–30 in.)		
Digging Force				
	Bucket Cylinder	55.0 kN (12,361 lb.)		
	With Heavy-Duty Cylinder Option	67.9 kN (15,260 lb.)		
	Crowd Cylinder	36.6 kN (8,231 lb.)		
Swing Arc		180 deg.		
Operator Control		2 levers		
		With Optional Extendable Dipperstick		
		With Standard Backhoe	Retracted	Extended
F	Loading Height, Truck Loading Position	3.65 m (12 ft. 0 in.)	3.77 m (12 ft. 5 in.)	4.39 m (14 ft. 5 in.)
G	Reach from Center of Swing Pivot	5.44 m (17 ft. 10 in.)	5.61 m (18 ft. 5 in.)	6.62 m (21 ft. 9 in.)
H	Reach from Center of Rear Axle	6.80 m (22 ft. 4 in.)	6.98 m (22 ft. 11 in.)	7.98 m (26 ft. 2 in.)
I	Digging Depth (SAE maximum)	4.08 m (13 ft. 5 in.)	4.24 m (13 ft. 11 in.)	5.29 m (17 ft. 4 in.)
J	Digging Depth (SAE)			
	610-mm (2 ft.) Flat Bottom	4.03 m (13 ft. 3 in.)	4.20 m (13 ft. 9 in.)	5.26 m (17 ft. 3 in.)
	2440-mm (8 ft.) Flat Bottom	3.68 m (12 ft. 1 in.)	3.87 m (12 ft. 8 in.)	5.00 m (16 ft. 5 in.)
K	Overall Width (less loader bucket)	2.43 m (8 ft. 0 in.)	2.41 m (7 ft. 11 in.)	—
L	Side-Shift from Tractor Centerline	537 mm (21 in.)	537 mm (21 in.)	537 mm (21 in.)
M	Wall to Swing Centerline	604 mm (24 in.)	604 mm (24 in.)	604 mm (24 in.)
N	Bucket Rotation	190 deg.	190 deg.	190 deg.
O	Transport Height	3.71 m (12 ft. 2 in.)	3.72 m (12 ft. 3 in.)	3.72 m (12 ft. 3 in.)

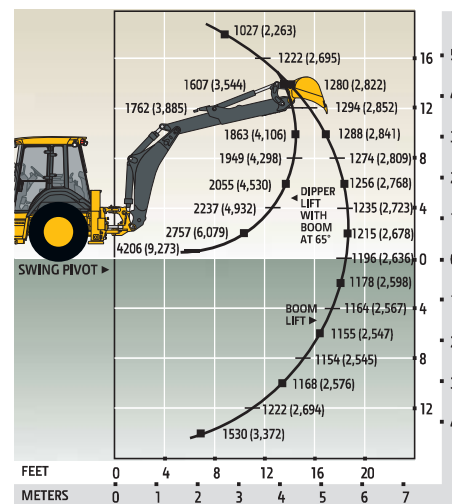
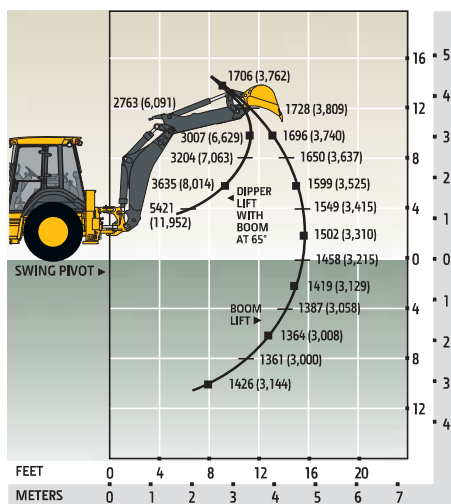
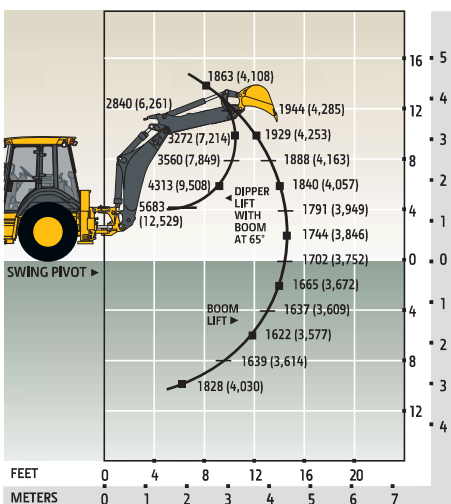
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Loader Dimensions and Performance		315SL			
P	Bucket Dump Angle, Maximum	45 deg.			
Q	Rollback Angle at Ground Level	40 deg.			
		Heavy-duty	Heavy-duty	Multipurpose	Multipurpose
	Bucket Capacity	0.77 m <sup>3</sup> (1.00 cu. yd.)	1.00 m <sup>3</sup> (1.31 cu. yd.)	0.96 m <sup>3</sup> (1.25 cu. yd.)	1.00 m <sup>3</sup> (1.31 cu. yd.)
	Width	2184 mm (86 in.)	2337 mm (92 in.)	2184 mm (86 in.)	2337 mm (92 in.)
	Weight	363 kg (800 lb.)	521 kg (1,148 lb.)	794 kg (1,750 lb.)	863 kg (1,902 lb.)
	Breakout Force	49.2 kN (11,060 lb.)	47.2 kN (10,608 lb.)	43.9 kN (9,863 lb.)	43.5 kN (9,788 lb.)
	Lift Capacity, Full Height	3456 kg (7,619 lb.)	3277 kg (7,225 lb.)	2833 kg (6,246 lb.)	2792 kg (6,156 lb.)
R	Height to Bucket Hinge Pin, Maximum	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)
S	Dump Clearance, Bucket at 45 deg.	2.75 m (9 ft. 0 in.)	2.69 m (8 ft. 10 in.)	2.65 m (8 ft. 8 in.)	2.65 m (8 ft. 8 in.)
T	Reach at Full Height, Bucket at 45 deg.	743 mm (29.2 in.)	726 mm (28.6 in.)	768 mm (30.2 in.)	768 mm (30.2 in.)
U	Digging Depth Below Ground, Bucket Level	89 mm (3.5 in.)	146 mm (5.8 in.)	142 mm (5.6 in.)	142 mm (5.6 in.)
V	Length from Front Axle Centerline to Bucket Cutting Edge	1.97 m (6 ft. 6 in.)	2.05 m (6 ft. 9 in.)	2.10 m (6 ft. 11 in.)	2.10 m (6 ft. 11 in.)

Lift Capacity with Quick-Coupler Forks		1219-mm (48 in.) Tines	1524-mm (60 in.) Tines
Hydraulic Capacity			
A <sup>1</sup>	Maximum Height	2023 kg (4,459 lb.)	1891 kg (4,168 lb.)
B <sup>1</sup>	Maximum Reach	3160 kg (6,967 lb.)	2979 kg (6,568 lb.)
C <sup>1</sup>	At Ground Line	4000 kg (8,818 lb.)	3783 kg (8,340 lb.)
D <sup>1</sup>	Below Ground Line	216 mm (8.5 in.)	216 mm (8.5 in.)



Lift Capacities	
Lift capacities are over-end values in kg (lb.). Figures listed are 100% of the maximum lift force available.	
STANDARD LIFT	STANDARD LIFT
With Standard Dipperstick	With 1.06-m (3 ft. 6 in.) Extendable Dipperstick, Retracted
STANDARD LIFT	STANDARD LIFT
With 1.06-m (3 ft. 6 in.) Extendable Dipperstick, Extended	



\*Indicates capacity is stability limited. Lift capacities are over end with stabilizers down and tires tangent to ground.



# 410L

## SPECIFICATIONS

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Engine	410L			
Manufacturer and Model	John Deere PowerTech™ 4045TT096 turbocharged		John Deere PowerTech™ E 4045HT087 turbocharged	
Non-Road Emission Standard	EPA Tier 2/EU Stage II		EPA Tier 3/EU Stage IIIA	
Displacement	4.5 L (276 cu. in.)		4.5 L (276 cu. in.)	
Gross Peak Power	76 kW (102 hp) at 2,100 rpm		80 kW (108 hp) at 2,100 rpm	
Power Ratings with Canopy, 130-amp Alternator, and Standard Fixed Fan				
Net Peak Power (ISO 9249)	72 kW (97 hp) at 2,100 rpm		76 kW (102 hp) at 2,010 rpm	
Net Peak Torque (ISO 9249)	381 Nm (281 lb.-ft.) at 1,400 rpm		421 Nm (310 lb.-ft.) at 1,300 rpm	
Net Torque Rise	27%		36%	
Power Ratings with Cab, 130-amp Alternator, and Optional Viscous Fan				
Net Peak Power (ISO 9249)	75 kW (101 hp) at 2,100 rpm		79 kW (106 hp) at 2,100 rpm	
Net Peak Torque (ISO 9249)	387 Nm (286 lb.-ft.) at 1,400 rpm		427 Nm (315 lb.-ft.) at 1,300 rpm	
Net Torque Rise	23%		33%	
Lubrication	Pressure system with spin-on filter and cooler		Pressure system with spin-on filter and cooler	
Air Cleaner	Dual-stage dry type with safety element and evacuator valve		Dual-stage dry type with safety element and evacuator valve	
Cooling				
Fan Type	Suction-type cooling fan standard; temperature-controlled (viscous) variable-rate fan optional			
Engine Coolant Rating	−40 deg. C (−40 deg. F)			
Engine Oil Cooler	Oil to water			
Powertrain				
Transmission	5-speed, helical-cut gears, full PowerShift™ transmission with hydraulic reverser standard; electric clutch cutoff on loader lever; AutoShift transmission optional			
Torque Converter	Single stage, dual phase with 2.63:1 stall ratio, 280 mm (11 in.)			
Maximum Travel Speeds with Standard Engine, Measured with 21L-24 Rear Tires	Forward	Reverse	Forward	Reverse
Gear 1	5.4 km/h (3.4 mph)	6.9 km/h (4.6 mph)	5.6 km/h (3.5 mph)	7.1 km/h (4.4 mph)
Gear 2	10.0 km/h (6.2 mph)	12.6 km/h (8.4 mph)	10.3 km/h (6.4 mph)	13.0 km/h (8.1 mph)
Gear 3	20.6 km/h (12.8 mph)	20.3 km/h (13.6 mph)	21.3 km/h (13.2 mph)	21.0 km/h (13.0 mph)
Gear 4	37.6 km/h (23.4 mph)	—	38.8 km/h (24.1 mph)	—
Gear 5	40.0 km/h (24.9 mph)	—	40.0 km/h (24.9 mph)	—
Axles				
Axle Oscillation, Stop to Stop, Front Axle	22 deg.		22 deg.	
Axle Ratings	Front	Rear		
SAE J43	6500 kg (14,300 lb.)	7500 kg (16,500 lb.)		
Dynamic	9000 kg (19,800 lb.)	10 000 kg (22,000 lb.)		
Static	26 500 kg (58,400 lb.)	26 500 kg (58,400 lb.)		
Ultimate	43 500 kg (95,900 lb.)	43 500 kg (95,900 lb.)		
Differentials				
Mechanical-Front-Wheel-Drive (MFWD) Axle	Automatic, limited-slip traction control			
Rear Axle	Foot actuated, hydraulically engaged 100% mechanical lock			
Steering (ISO 5010)	Hydrostatic power steering and emergency steering			
Axle	MFWD	Non-Powered Front		
Curb-Turning Radius				
With Brakes	3.60 m (11 ft. 10 in.)	3.57 m (11 ft. 9 in.)		
Without Brakes	4.20 m (13 ft. 9 in.)	4.17 m (13 ft. 8 in.)		
Bucket-Clearance Circle				
With Brakes	10.38 m (34 ft. 1 in.)	10.37 m (34 ft. 0 in.)		
Without Brakes	11.28 m (37 ft. 0 in.)	11.25 m (36 ft. 11 in.)		
Steering Wheel Turns (lock to lock, flow amplified)	2.6 to 3.6	3.1 to 4.3		
MFWD Axle	Heavy duty, outboard planetary final drives distribute shock loads over 3 gears			
Rear Axle	Heavy duty, outboard planetary final drives distribute shock loads over 4 gears			
Brakes (ISO 3450)				
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			
Pump Flow at 2,200 rpm, Backhoe and Loader	159 L/m (42 gpm)			
System Relief Pressure, Backhoe and Loader	24 993 kPa (3,625 psi)			

# 410L

## SPECIFICATIONS



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### Hydraulics (continued)

#### 410L

#### Controls

Backhoe	2-lever mechanical standard; pilot controls with pattern select and manual and auxiliary functions optional; field kits available for additional mechanical control options
Loader	Single-lever control with electric clutch cutoff and MFWD (momentary) standard; transmission quick-shift and electro-hydraulic (EH) auxiliary loader control optional

#### Cylinders

Heat-treated, chrome-plated, polished rods; hardened steel (replaceable bushings) pivot pins

	Bore	Rod Diameter	Stroke
Loader Boom (2)	80 mm (3.15 in.)	50 mm (1.97 in.)	790 mm (31.10 in.)
Loader Bucket (1)	90 mm (3.54 in.)	50 mm (1.97 in.)	744 mm (29.29 in.)
Backhoe Boom (1)	140 mm (5.51 in.)	70 mm (2.76 in.)	897 mm (35.31 in.)
Backhoe Crowd (1)	120 mm (4.72 in.)	63 mm (2.48 in.)	727 mm (28.62 in.)
Backhoe Bucket (1)	100 mm (3.94 in.)	63 mm (2.48 in.)	810 mm (31.89 in.)
Backhoe Swing (2)	90 mm (3.54 in.)	50 mm (1.97 in.)	278 mm (10.94 in.)
Backhoe Extendable Dipperstick (1)	80 mm (3.15 in.)	45 mm (1.77 in.)	1214 mm (47.78 in.)
Backhoe Stabilizer, Extended (2)	100 mm (3.94 in.)	50 mm (1.97 in.)	500 mm (19.69 in.)
Non-Powered Axle (1)	70 mm (2.76 in.)	42 mm (1.65 in.)	210 mm (8.27 in.)
MFWD (1)	65 mm (2.56 in.)	40 mm (1.57 in.)	210 mm (8.27 in.)

#### Electrical

Voltage	12 volt
Alternator Rating	130 amp
Lights	10 halogen: 4 front, 4 rear, and 2 side docking (32,500 candlepower each); turn signals and flashers: 2 front and 2 rear; stop and taillights; and 2 rear reflectors; factory-installed option for 2 LED spotlights and 8 LED front floodlights in lieu of standard halogen light package

#### Operator Station

Type (SAE J1040)	Canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof; optional quarter cab (front glass only) and fully enclosed cab
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#### Tires/Wheels

	Front	Rear
Non-Powered Front Axle	12.5/80-18 F3 (12)	21L-24 R-4 (12)
	14.5/75-16.1 F3 (16)	21L-24 R-4 (12)
With MFWD	12.5/80-18 R4 (10)	21L-24 R-4 (12)
	12.5/80-18 I3 (12)	21L-24 R-4 (12)
	340/80R18 XMCL	500/70R24 XMCL
	340/80R18 550	500/70R24 550
	340/80R18 580	500/70R24 580

#### Serviceability

Refill Capacities	EPA Tier 2/EU Stage II	EPA Tier 3/EU Stage IIIA
Cooling System		
Cab	23.8 L (25.1 qt.)	27.2 L (28.7 qt.)
Canopy	21 L (22.2 qt.)	24.4 L (25.8 qt.)
Rear Axle	18 L (19 qt.)	18 L (19 qt.)
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)	13 L (13.7 qt.)
Torque Converter and Transmission	15.1 L (16 qt.)	15.1 L (16 qt.)
Fuel Tank (with ground-level fueling)	128.7 L (34 gal.)	128.7 L (34 gal.)
Hydraulic System	126.8 L (33.5 gal.)	126.8 L (33.5 gal.)
Hydraulic Reservoir	45 L (11.9 gal.)	45 L (11.9 gal.)
MFWD Housing		
Axle	6.5 L (6.9 qt.)	6.5 L (6.9 qt.)
Planetary (each)	0.9 L (1 qt.)	0.9 L (1 qt.)

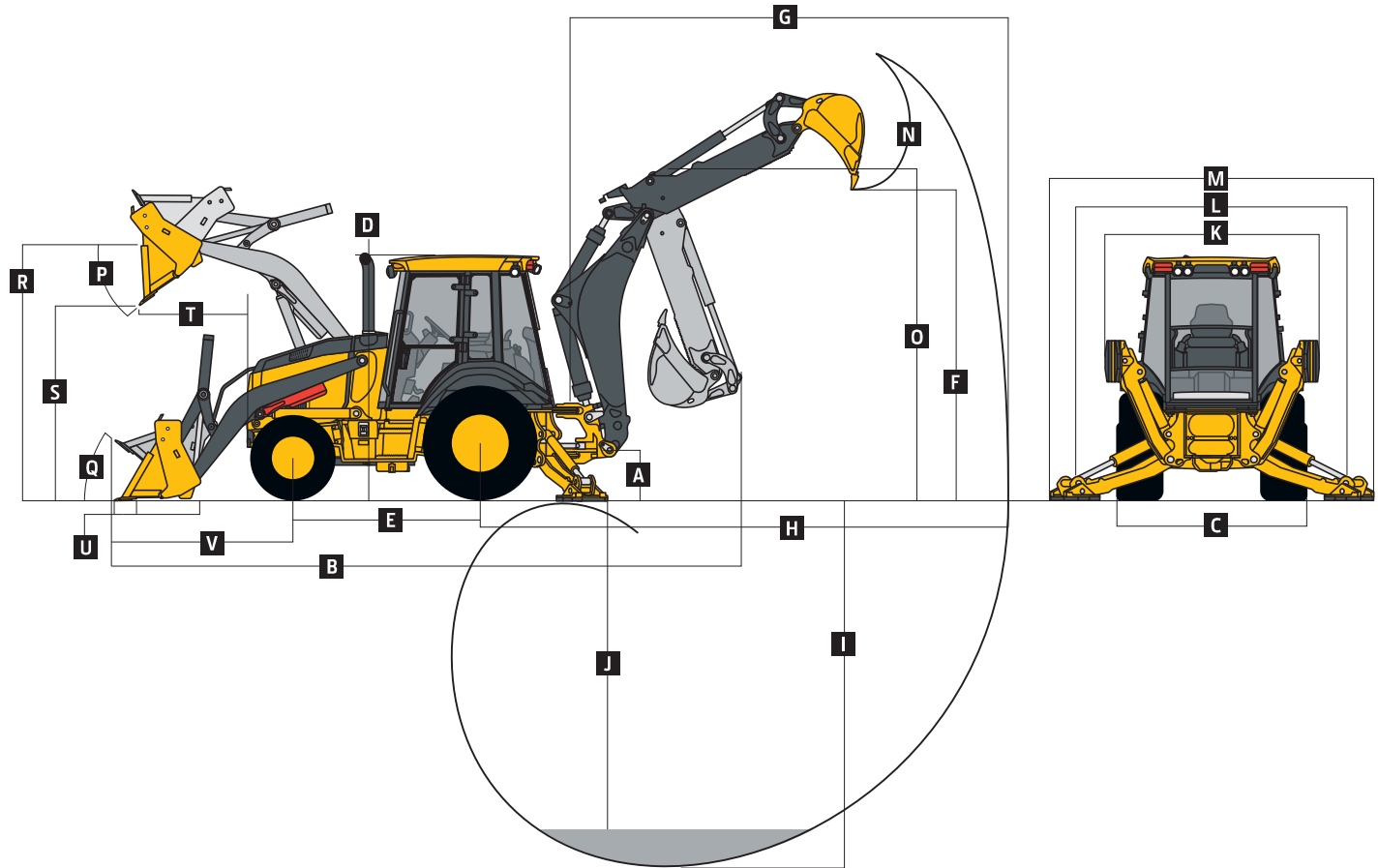
#### Operating Weights

With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and 340-kg (750 lb.) Counterweight	7959 kg (17,547 lb.)
Typical with Cab, Extendable Dipperstick, and 567-kg (1,250 lb.) Counterweight	8720 kg (19,224 lb.)

#### Optional Components (weight difference between base equipment and option)

Cab	263 kg (580 lb.)	Front Loader Coupler	257 kg (566 lb.)
MFWD with Tires	110 kg (242 lb.)	Backhoe Bucket Coupler	64 kg (141 lb.)
Extendable Dipperstick	271 kg (597 lb.)		

Overall Dimensions		410L
A	Ground Clearance, Minimum	334 mm (13 in.)
B	Overall Length, Transport	7.43 m (24 ft. 5 in.)
C	Width Over Tires	2.34 m (7 ft. 8 in.)
D	Height to Top of ROPS/Cab	2.87 m (9 ft. 5 in.)
E	Length from Axle to Axle	
	Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
	MFWD Axle	2.19 m (7 ft. 2 in.)



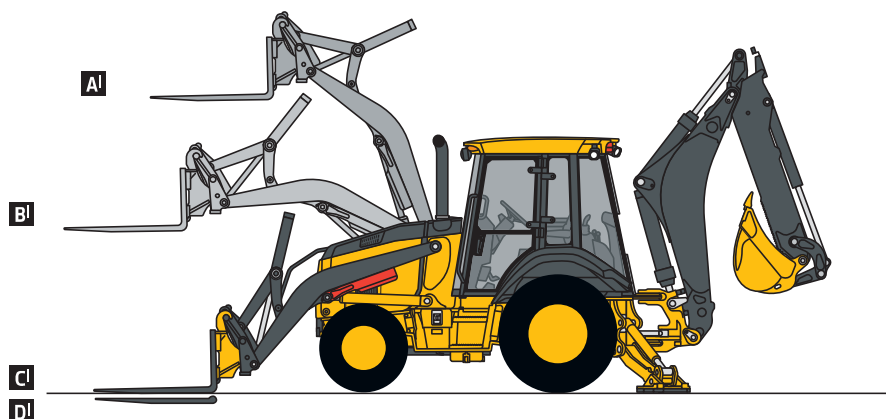
Backhoe Dimensions and Performance				
Backhoe specifications are with 610-mm x 0.21-m³ (24 in. x 7.5 cu. ft.) bucket; dipper lift specs are with a boom angle of 60 deg.				
Bucket Range	305–762 mm (12–30 in.)			
Digging Force				
Bucket Cylinder	69.9 kN (15,723 lb.)			
Crowd Cylinder	44.1 kN (9,907 lb.)			
Swing Arc	180 deg.			
Operator Control	2 levers			
	With Standard Backhoe	With Optional Extendable Dipperstick		
		Retracted	Extended	
F Loading Height, Truck Loading Position	3.97 m (13 ft. 0 in.)	4.01 m (13 ft. 2 in.)	4.72 m (15 ft. 6 in.)	
G Reach from Center of Swing Pivot	6.02 m (19 ft. 9 in.)	6.02 m (19 ft. 9 in.)	7.14 m (23 ft. 5 in.)	
H Reach from Center of Rear Axle	7.14 m (23 ft. 5 in.)	7.14 m (23 ft. 5 in.)	8.26 m (27 ft. 1 in.)	
I Digging Depth (SAE maximum)	4.85 m (15 ft. 11 in.)	4.85 m (15 ft. 11 in.)	6.00 m (19 ft. 8 in.)	
J Digging Depth (SAE)				
610-mm (2 ft.) Flat Bottom	4.80 m (15 ft. 9 in.)	4.80 m (15 ft. 9 in.)	5.97 m (19 ft. 7 in.)	
2440-mm (8 ft.) Flat Bottom	4.49 m (14 ft. 9 in.)	4.49 m (14 ft. 9 in.)	5.75 m (18 ft. 10 in.)	
K Stabilizer Width, Transport	2.35 m (7 ft. 9 in.)	2.35 m (7 ft. 9 in.)	2.35 m (7 ft. 9 in.)	
L Stabilizer Spread, Operating	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	
M Stabilizer Overall Width, Operating	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)	
N Bucket Rotation	190 deg.	190 deg.	190 deg.	
O Transport Height	3.91 m (12 ft. 10 in.)	3.91 m (12 ft. 10 in.)	3.91 m (12 ft. 10 in.)	

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Loader Dimensions and Performance		410L		
P	Bucket Dump Angle, Maximum	45 deg.		
Q	Rollback Angle at Ground Level	40 deg.		
		<i>Heavy-duty</i>	<i>Heavy-duty</i>	<i>Multipurpose</i>
	Bucket Capacity	1,00 m <sup>3</sup> (1.31 cu. yd.)	1,15 m <sup>3</sup> (1.50 cu. yd.)	1,00 m <sup>3</sup> (1.31 cu. yd.)
	Width	2346 mm (92 in.)	2394 mm (94 in.)	2346 mm (92 in.)
	Weight	521 kg (1,148 lb.)	548 kg (1,208 lb.)	863 kg (1,902 lb.)
	Breakout Force	47.3 kN (10,645 lb.)	46.1 kN (10,361 lb.)	43.7 kN (9,824 lb.)
	Lift Capacity, Full Height	3271 kg (7,211 lb.)	3160 kg (6,967 lb.)	2787 kg (6,144 lb.)
R	Height to Bucket Hinge Pin, Maximum	3.47 m (11 ft. 4 in.)	3.47 m (11 ft. 4 in.)	3.47 m (11 ft. 4 in.)
S	Dump Clearance, Bucket at 45 deg.	2.70 m (8 ft. 10 in.)	2.66 m (8 ft. 9 in.)	2.67 m (8 ft. 9 in.)
T	Reach at Full Height, Bucket at 45 deg.	730 mm (28.7 in.)	772 mm (30.4 in.)	772 mm (30.4 in.)
U	Digging Depth Below Ground, Bucket Level	135 mm (5.3 in.)	135 mm (5.3 in.)	131 mm (5.1 in.)
V	Length from Front Axle Centerline to Bucket Cutting Edge	2.03 m (6 ft. 8 in.)	2.09 m (6 ft. 10 in.)	2.08 m (6 ft. 10 in.)

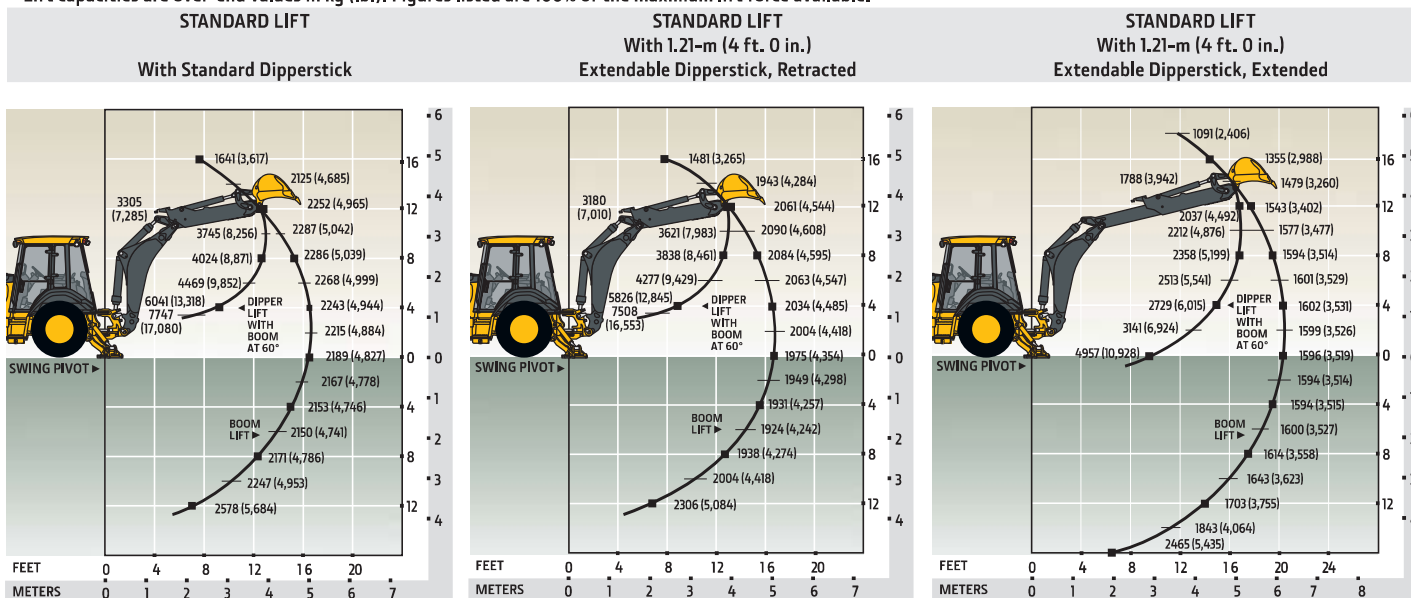
#### Lift Capacity with Quick-Coupler Forks

Hydraulic Capacity		1219-mm (48 in.) Tines	1524-mm (60 in.) Tines
A <sup>1</sup>	Maximum Height	2019 kg (4,452 lb.)	1887 kg (4,161 lb.)
B <sup>1</sup>	Maximum Reach	3158 kg (6,963 lb.)	2978 kg (6,565 lb.)
C <sup>1</sup>	At Ground Line	4009 kg (8,839 lb.)	3792 kg (8,360 lb.)
D <sup>1</sup>	Below Ground Line	206 mm (8.1 in.)	206 mm (8.1 in.)



#### Lift Capacities

Lift capacities are over-end values in kg (lb.). Figures listed are 100% of the maximum lift force available.



\*Indicates capacity is stability limited. Lift capacities are over end with stabilizers down and tires tangent to ground.

# Additional equipment

Key: ● Standard ▲ Optional or special See your John Deere dealer for further information.

310L	310SL	315SL	410L	Engine
●	●	●	●	Coolant recovery tank with low-level indicator
●	●	●	●	Foldout, hinged cooling system
●	●	●	●	Serpentine belt with automatic belt tensioner
●	●	●	●	Suction-type cooling fan
▲	▲	▲	▲	Viscous variable-rate cooling fan
▲	▲	▲	▲	Chrome exhaust extension
●	●	●	●	Ether start aid
	●			Glow plugs
▲	▲	▲	▲	1,000-watt electric engine coolant heater
Powertrain				
●				PowerShift™ transmission: Torque converter with twist-grip TCL and neutral safety switch interlock (1st through 4th gears)
	●	●	●	PowerShift transmission: Torque converter with twist-grip TCL and neutral safety switch interlock (1st through 5th gears)
	●	●	●	5th-gear overdrive
	▲	▲	▲	AutoShift transmission
●	●	●	●	Transmission oil cooler
▲	▲	▲	▲	Transmission remote oil-sampling port
●	●		●	Differential lock, electric foot actuated, protection on/off
		●		Differential lock, electric foot actuated
	●	●	●	Auto shutdown
●	●	●	●	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
●				MFWD with open differential: Electric on/off control / Sealed axle
▲	●	●	●	MFWD with traction-control limited-slip differential: Electric on/off control / Sealed axle
●	●	●	●	Automatic MFWD braking (4th and 5th gear overdrive only)
▲	▲	▲	▲	MFWD driveshaft guard

310L	310SL	315SL	410L	Backhoe
				Standard dipperstick digging depth
●				4.27 m (14 ft. 0 in.)
	●			4.34 m (14 ft. 3 in.)
		●		4.17 m (13 ft. 8 in.)
			●	4.83 m (15 ft. 10 in.)
				Extendable dipperstick extension
▲	▲	▲		1.06 m (3 ft. 6 in.)
			▲	1.21 m (4 ft. 0 in.)
	▲	▲		Heavy-duty backhoe bucket cylinder
●	●	●	●	ISO (Deere) 2-lever mechanical backhoe controls
▲	▲	▲	▲	2-lever pilot controls with pattern-selection feature
		●		Backhoe transport lock lever
●	●	●	●	Swing lock pin stored in operator's station
●	●	●	●	Stabilizers with 2-direction anti-drift valves
	▲			Extended (long) stabilizers with reversible pads
	▲	▲	▲	Severe-duty backhoe bucket with lift loops
▲	▲		▲	Backhoe couplers for John Deere, Case, and Cat buckets
▲	▲	▲	▲	Auxiliary backhoe valve for swingers, thumbs, etc. with auxiliary plumbing
▲	▲	▲	▲	Auxiliary backhoe valve for hammers and compactors with auxiliary plumbing
▲	▲		▲	Hydraulic thumb
Loader†				
●	●	●	●	Loader bucket anti-spill (rollback)
●	●	●	●	Return-to-dig feature
●	●	●	●	Single-lever control with electric clutch disconnect
●	●	●	●	Bucket-level indicator
●	●	●	●	Loader boom service lock
▲		▲		Auxiliary loader hydraulics with 2-lever control
	▲		▲	Auxiliary loader hydraulics with single control lever with EH auxiliary control (MFWD and clutch disconnect)
▲	▲	▲	▲	Hydraulic coupler for buckets, forks, etc.
	▲	▲	▲	Ride control
	▲	▲	▲	Auto ride control field kit
†See dealer for range of heavy-duty, multipurpose, and coupler buckets and forks.				
Hydraulic System				
●				106-L/m (28 gpm) single-gear pump, open-center system
	●	●		136-L/m (36 gpm) tandem-gear pump, open-center system

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# Additional equipment *(continued)*

Key: ● Standard ▲ Optional or special See your John Deere dealer for further information.

310L	310SL	315SL	410L	Hydraulic System <i>(continued)</i>
			●	159-L/m (42 gpm) axial-piston pump, pressure-compensated load-sensing (PCLS) system
	●	●	●	Auto-idle
●	●	●	●	Economy mode
●	●	●	●	Dedicated hydraulic reservoir
Electrical System				
●	●	●	●	12-volt system
●	●	●	●	90-amp alternator (with canopy and quarter cab)
●	●	●	●	130-amp alternator (with cab only)
●	●	●	●	Single battery with 190-min. reserve capacity and 925 CCA
▲	▲	▲	▲	Dual batteries with 380-min. reserve capacity and 1,850 CCA
▲	▲	▲	▲	Remote jump posts and battery disconnect
Lights				
●	●	●	●	Halogen lights (10), 32,500 candlepower each (4 front driving/working, 4 rear working, and 2 side docking)
●	●	●	●	Turn signal/flashing (2 front and 2 rear)
●	●	●	●	Rear stop and tail (2)
Operator's Station				
●	●	●	●	Modular-design ROPS/FOPS (Level 2) canopy with molded roof (meets ISO 3449 and ISO 3471/SAE J1040): Isolation mounted
●	●	●	●	Molded floor mats (with pilot controls only)
●	●	●	●	12-volt outlet
●	●	●	●	Lockable right-side storage
▲	▲	▲	▲	Lockable left-hand storage with cup holders
▲	▲	▲	▲	Interior front-view mirror
▲	▲	▲	▲	Outside rearview mirrors
●	●	●	●	Rotary-dial hand throttle
●	●	●	●	Suspended foot throttle
▲	▲	▲	▲	Air-suspension seat (with cab only)
●				Key start switch with electric fuel shutoff
●	●	●	●	Tilt steering, infinitely adjustable (with cab only)
▲	▲		▲	Tilt steering, infinitely adjustable (with canopy and quarter cab)
	●	●	●	Keyless start
▲	●	●	●	Machine security (enabled through monitor)
●	●	●	●	Digital display of engine hours, engine rpm, and system voltage
	●	●	●	Sealed-switch module
	●	●	●	Multi-function lever: Turn signals / Windshield wipers / Some light functionality

310L	310SL	315SL	410L	Operator's Station <i>(continued)</i>
●	●	●	●	Monitor system with audible and visual warnings: Engine air restriction / Low alternator voltage / Engine oil pressure / Hydraulic filter restriction / Parking brake on/off / Aftertreatment temperature / Transmission fluid temperature / Fuel / Hour meter / Machine diagnostic information via 4-push-button/LCD operator interface
●	●	●	●	<b>Canopy:</b> Mechanical-suspension deluxe vinyl swivel seat with lumbar adjustment and armrests (fully adjustable)
▲	▲			<b>Quarter Cab:</b> Mechanical-suspension deluxe fabric swivel seat with lumbar adjustment and armrests (fully adjustable), front windshield, and windshield wiper (1 front)
▲	▲	▲	▲	<b>Cab with Dual Doors and A/C:</b> Mechanical-suspension deluxe fabric swivel seat with lumbar adjustment / Headliner, dome light, left and right cab doors, tinted safety glass, windshield wipers (1 rear and 1 front), front windshield washer, fresh-air intake, and heater/defroster/pressurizer (11.7-kW [40,000 Btu/h] heater) / A/C (7.6-kW [26,000 Btu/h] output and CFC-free R134a refrigerant
▲	▲	▲	▲	AM/FM/weather-band (WB) radio (with cab only)
▲	▲	▲	▲	Premium radio package (with cab only; includes additional 12-volt and USB outlets)
Overall Vehicle				
●	●	●	●	1-piece unitized construction mainframe
●	●	●	●	Vehicle tie-downs (2 front and 2 rear)
●	●	●	●	Remote grease bank for front axle
●	●		●	Front cover
▲	▲	●	▲	Heavy-duty front bumper
▲	▲	▲	▲	Front counterweight – 204 kg (450 lb.), 340 kg (750 lb.), 454 kg (1,000 lb.), or 567 kg (1,250 lb.)
▲	▲	▲	▲	Rubber grille bumpers
●	●	●	●	Fuel tank, 128.7 L (34 gal.), ground-level fueling
●	●	●	●	2-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
●	●	●	●	Dent-resistant full-coverage rear fenders
▲	▲		▲	Backhoe boom-protection plate
●	●	●	●	JDLink™ wireless communication system (available in specific countries; see your dealer for details)

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JOHN DEERE

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# ***RIISING TO THE CHALLENGE.***

Every day brings new challenges — demanding jobsites, long hours, and an increasing focus on uptime. Our job is to bring you the opportunities to overcome them. Our experienced engineers, specialized service techs, and global parts and service network are always ready to step up to help you **Run Your World.**

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DKALBHLLA (19-06)