Event Number	18-115	**Organization**	Lincoln Purchasing
Event Title	Backhoe Loader - Lancaster County Enginee	**Workgroup**	Lincoln Purchasing
Event Description		**Event Owner**	Sharon Mulder
Event Type	Bid	**Email**	smulder@lincoln.ne.gov
Issue Date	4/20/2018 05:45:25 PM (CT)	**Phone**	(402) 441-7428 x
Close Date	5/4/2018 12:00:00 PM (CT)	**Fax**	(402) 441-6513 x

Responding Supplier	City	State	Response Submitted	Lines Responded	Response Total
KanEquip, Inc	Syracuse	NE	5/4/2018 07:22:36 AM (CT)	0	$0.00
TITAN MACHINERY INC	LINCOLN	NE	5/3/2018 09:30:19 AM (CT)	2	$89,000.00
MURPHY TRACTOR & EQUIPMEI	Lincoln	NE	5/4/2018 10:38:50 AM (CT)	2	$91,976.00
NMC, Inc (Nebraska Machinery	Lincoln	NE	5/4/2018 11:44:19 AM (CT)	2	$105,456.00

Please note: Lines Responded and Response Total only includes responses to specification. No alternate response data is included.

City of Lincoln/Lancaster County (Lincoln Purchasing)
Supplier Response

Bid Information

Bid Creator	Sharon Mulder Asst Purchasing Agent
Email	smulder@lincoln.ne.gov
Phone	(402) 441-7428 x
Fax	(402) 441-6513 x
Bid Number	18-115
Title	Backhoe Loader - Lancaster County Engineering
Bid Type	Bid
Issue Date	4/20/2018 05:45 PM (CT)
Close Date	5/4/2018 12:00:00 PM (CT)

Contact Information

Address	Purchasing 440 S. 8th St. Lincoln, NE 68508
Contact	Sharon Mulder Asst Purchasing Agent
Department	
Building	
	Suite 200
Floor/Room	
Telephone	(402) 441-7428 x
Fax	(402) 441-6513 x
Email	smulder@lincoln.ne.gov

Ship to Information

Address	Lancaster County Engineering 444 Cherrycreek Road, Bldg B Lincoln, NE 68528
Contact	
Department	
Building	
Floor/Room	
Telephone	(402) 441-6321 x
Fax	
Email	purchasing@lincoln.ne.gov

Supplier Information

Company	MURPHY TRACTOR & EQUIPMENT CO.INC.
Address	6100 Arbor Road Lincoln, NE 68517
Contact	Tim Jindra
Department	
Building	
Floor/Room	
Telephone	(402) 467-1300
Fax	(402) 467-1927
Email	tjindra@murphytractor.com
Submitted	5/4/2018 10:38:50 AM (CT)
Total	$91,976.00

By submitting your response, you certify that you are authorized to represent and bind your company.

Signature Tim Jindra Email tjindra@murphytractor.com

Supplier Notes

Bid Notes

Bid Activities

Bid Messages

Bid Attributes
Please review the following and respond where necessary

#	Name	Note	Response
1	Instructions to Bidders	I acknowledge reading and understanding the Instructions to Bidders.	Yes
2	Specifications	I acknowledge reading and understanding the specifications.	Yes
3	Purchase Order, Contract and Delivery Contact	The City/County Purchasing Department issues Purchase Orders and Contracts via email to a designated contact person of the awarded Vendor. This designee will be the primary contact with the department through the delivery of the product/services. Please list the name, email address and phone number of the person who will be the contact person for the PO to be awarded.	Tim Jindra tjindra@murphytractor.com 402-560-1300
4	Delivery	State number of delivery days ARO. FOB to the City/County at the location specified with all transportation charges paid.	120 days
5	Contact	Name of person submitting this bid:	Tim Jindra
6	Lifecycle Costing	Please complete and attach both pages the Lifecycle Costing sheets to the Vendor's Response Attachment Section of the E-bid.	Yes
7	Tax Exempt Certification Forms	Materials being purchased in this bid are tax exempt and unit prices are reflected as such. A Purchasing Agent Appointment form and a Exempt Sales Certificate form shall be issued with contract documents. (Note: State Tax Law does not provide for sales tax exemption for proprietary functions for government, thereby excluding the purchases of pipes to be installed in water lines and purchase of water meters.)	Yes
8	Recycling of Corrugated Cardboard	I acknowledge that I must comply with the City of Lincoln recycling regulations which includes a ban of all corrugated cardboard from the City Landfill effective April 1, 2018. Vendors are encouraged to utilize recycling sites located throughout the city of Lincoln to dispose of corrugated cardboard.	Yes

9	U.S. Citizenship Attestation	Is your company legally considered an Individual or Sole Proprietor: YES or NO As a Vendor who is legally considered an Individual or a Sole Proprietor I hereby understand and agree to comply with the requirements of the United States Citizenship Attestation Form, available at: http://www.sos.ne.gov/business/notary/citizenforminfo.html All awarded Vendors who are legally considered an Individual or a Sole Proprietor must complete the form and submit it with contract documents at time of execution. If a Vendor indicates on such attestation form that he or she is a qualified alien, the Vendor agrees to provide the US Citizenship and Immigration Services documentation required to verify the Vendor's lawful presence in the United States using the Systematic Alien Verification for Entitlements (SAVE) Program. Vendor further understands and agrees that lawful presence in the United States is required and the Vendor may be disqualified or the Contract terminated if such lawful presence cannot be verified as required by Neb. Rev. Stat. 4-108.	No
10	Warranty	I acknowledge and understand that I have attached the equipment warranty information in the Vendor's Response Attachment Section of the E-bid.	Yes
11	Electronic Signature	Please check here for your electronic signature.	Yes

Line Items

#	Qty	UOM	Description	Response
1	1	EA	2018 or 2019 Backhoe Loader	$104,476.00

Manufacturer: Caterpillar, John Deere, Case Manufacturer #: 420F, 310SK, 580SNWT or Equivalent

Item Notes: Please attach a brochure to the Vendor's Response Attachment Section of the E-bid, which shall include the technical specifications.

Supplier Notes:

Item Attributes: Please review the following and respond where necessary

#	Name	Note	Response
1	Manufacturer and Model	Please provide Manufacturer and Model bidding.	John Deere 310SL
2	Front Tires	Please indicate Manufacturer and tire size bidding	Michelin Radial - 340/80 R18 XMCL
3	Rear Tires	Please indicate Manufacturer and tire size bidding	Michelin Radial - 500/70 R24 XMCL
4	Bucket Width	Does your bucket cover the entire width of the machine?	92 inches
5	CD Manual Format	What is the price of a Manual in CD Format?	Operators, maint. and safety - $74 ea. Parts - $444 ea. Technical - $269 ea. Repair - $128 ea.
6	Electronic Manual Format	What is the price of a Manual in an Electronic Format?	Operators, maint. and safety - $64 ea. Parts - $385 ea. Technical - $234 ea. Repair - $111 ea.
7	Controls, Specifications, Section 12, 12.7 and 12.7.1	12.7. Electric over Hydraulic joystick control to operate backhoe 12.7.1. Must have option to change from backhoe to excavator pattern. Please confirm.	Yes and Yes
8	Decibel Levels	Please state decibel level in Operator's position per Specifications, Section 16. Please state decibel level in Bystanders position per Specifications, Section 16.	ISO6396 Operator - 72dba ISO6395 Bystander - 103dba
9	Manuals Costs	Is there a charge or N/C for One (1) complete Set of Service Manuals? Is there a charge or N/C for One (1) complete Set of an Engine Service Manual? Is there a charge or N/C for One (1) complete Parts Manual? Is there a charge or N/C for two (2) complete Operator's Manuals?	The price of hard copy manuals requested is included at no charge.

2	1	EA	Option: Trade-In County Owned Backhoe - 2003 John Deere 310SG	-$12,500.00

Item Notes: Serial Number #TO310SG915702, with 7900 hrs

Supplier Notes:

Response Total:	$91,976.00

L-SERIES

BACKHOES

JOHN DEERE

310L EP / 310L / 310SL / 310SL HL / 315SL / 410L / 710L

LIFT MORE AND MULTITASK

LOOKING FOR MORE
RELIABILITY AND PRODUCTIVITY?

WE'VE GOT YOUR BACKHO AND YOUR

RELIABLE + PRODUCTIVE

E. BACK.

UP TO
25%
MORE
LIFTING CAPABILITY

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 with our new 710L with 13-percent more horsepower and improved rear backhoe controllability. Redesigned pilot controllers that provide a 16-percent hydraulic metering range. The popular, competitively priced 310L EP as well as our heavy-lift and side-shift models, all with a host of proven features to help you boost productivity and maximize 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 21 in. 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, UNRIVALED 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 additional backhoe lift capability and pressure-compensated load-sensing (PCLS) hydraulics (on the 310SL HL, 410L, and 710L), for superb multifunction performance. The result: our most versatile backhoes ever.

True four-wheel drive on command

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

Powertrain performance

Responsive and productive five-speed transmission on the 310SL, 310SL HL, 315SL, and 410L provides transport speeds up to 25 mph. Add the AutoShift option and increase versatility in any application.

Smooth gear changes

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

Powerful FT4 engines

Rugged FT4/Stage IV PowerTech™ Plus diesel engines* meet rigid emission regulations, enabling you to work, wherever there's work — even in nonattainment areas. Our field-proven technology is simple, fluid efficient, fully integrated, and fully supported. It employs cooled exhaust gas recirculation, easy-to-maintain high-uptime exhaust filter (710L only), and selective catalytic reduction.

Control the ride and the load

With optional ride control (standard on the 710L), front loader hydraulic cylinders act as a shock absorber, smoothing travel over rough terrain, helping full loads reach their destination, and reducing operator fatigue. Upgrade to auto ride control to automatically turn ride control on or off based on machine ground speed. Adjust speed activation through the monitor.

Better lifting capability

The 310SL HL, 410L, and 710L deliver 10- to 25-percent more backhoe lift under normal conditions.

Multifunction hydraulics

PCLS hydraulics on the heavy-lift 310SL HL, 410L, and 710L ensure superior multifunction capability at all speeds.

FT4 *EPA FINAL TIER 4 (FT4)/EU STAGE IV POWERTECH PLUS DIESEL ENGINES**

**Interim Tier 4/Stage IIIB PowerTech on the 310L EP.*

BIG LIFT. SMALL FOOTPRINT.

THE 310SL HL

HEAVY-LIFT BACKHOE

Managing an expanding workload and multiple tasks doesn't have to mean moving up to a larger backhoe. Boasting significantly more lifting capability than previous models, along with pressure-compensated load-sensing (PCLS) hydraulics, our 310SL HL is surprisingly adept — and may be the perfect addition to your equipment lineup.

UP TO

15%

INCREASE IN LIFTING POWER WITH LIFT MODE

More lift capacity at the push of a button

Along with the 410L, the 310SL HL can deliver up to 25-percent more backhoe-lift capacity than their comparable K-Series models. Lift mode provides an additional boost of 10 to 15 percent. Simply pushing a button on the sealed-switch module sets engine rpm at 1,400 and maximizes hydraulic pressure for increased lifting capability.

PCLS hydraulics for superb multifunction operation

The 310SL HL delivers all the advantages of PCLS hydraulics in the 14–15-ft. digging-depth category, enabling operator efficiency and productivity through improved multifunction control.

Control in close quarters

Standard on the 310SL HL, 410L, and 710L, precision mode reduces the speed of hydraulic backhoe functions, for close work around underground utilities or jobsite obstacles, or when lifting. This control-enhancing feature is especially useful for less experienced operators or new trainees.

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 controllers provide effortless, fingertip operation of the backhoe and loader, while other machine functions are conveniently located on the steering column.

CLEAR SIGHTLINES TO FRONT LOADER BUCKET

Excellent view to front loader bucket

Clear sightlines to the loader bucket corners have been maintained over the sloped hood, even with the addition of the aftertreatment components needed to meet FT4 compliance.

Fatigue-beating comfort

L-Series Backhoes are loaded with creature comforts, including efficient HVAC system, adjustable mechanical or air-suspension seat, and optional premium radio with Bluetooth®, auxiliary input, and XM Satellite Radio™ capability.

More legroom and space to rotate

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

Extend your workday

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

Easy-to-use loader-control grip

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

Steering column controls

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

UNSURPASSED 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 world-class facility in Dubuque, Iowa, U.S.A., L-Series Backhoes deliver unmatched reliability and uptime. When you know how they're built, you'll run a Deere.

4WD

OPTION AT YOUR COMMAND

More durable multipurpose bucket

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

Bias and radial tire options

Choose from a variety of factory-installed tire options, for the traction, 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.

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 enhances reliability.

Protect your investment

Machine-security system with touchpad passcode safeguards against unauthorized operation.

Get connected

Customer-inspired new backhoe hydraulic quick-coupler option helps expand jobsite capabilities. When equipped, both front loader and rear backhoe hydraulic couplers are conveniently controlled, based on seat position, by a single button on the sealed-switch module.

Superior hydraulic oil

L-Series Backhoes come factory-filled with Hydrau™ premium all-season, anti-wear hydraulic oil specifically designed for construction equipment. For cold weather, opt for Hydrau™ XR, which offers all-season protection from –40 to 40 deg. C (–40 to 104 deg. F).

THE NEW 710L

21 ft. 9 in.

MAXIMUM DIGGING DEPTH
(WITH OPTIONAL EXTENDABLE DIPPERSTICK)

UP TO **10%**

INCREASE IN BACKHOE LIFT CAPACITY
(WITH LIFT MODE ACTIVATED)

13%

MORE HORSE-POWER THAN PREVIOUS MODEL

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. 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 program a multitude of time-specific functions such as auto shutdown and auto-idle quickly and easily.

DEF concentration sensor

Diesel exhaust fluid (DEF) concentration sensor measures fluid in the DEF tank and issues an alert of potential engine derate.

Minimize downtime and expense

Same-side ground-level service points speed daily checks and fills. Other common-sense 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.

Coolers allow easy cleanout

Hinged, stacked-assembly coolers tilt away from the radiator for convenient core cleanout.

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.

Quiet, fuel-efficient fan

Variable-speed electronically controlled fan automatically speeds up or slows down, operating only as needed to keep things cool. Conserves power and fuel, while reducing noise. A viscous variable-speed fan option is available for the 310L EP.

Proven engine technology

310L EP IT4/Stage IIIB emission-certified PowerTech engine requires no aftertreatment. 310SL HL and 410L FT4/Stage IV emission-certified PowerTech Plus engines feature a diesel oxidation catalyst (DOC) and a selective catalytic reduction (SCR) system. 310L, 310SL, 315SL, and 710L FT4/Stage IV emission-certified PowerTech Plus diesels include an SCR system. Only the 710L requires a diesel particulate filter (DPF).

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™ Ultimate 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 EP / 310L SPECIFICATIONS

Engine	310L EP		310L	
Manufacturer and Model	John Deere PowerTech™ E 4045HT072 turbocharged		John Deere PowerTech™ Plus 4045HT096 turbocharged	
Non-Road Emission Standard	EPA Interim Tier 4/EU Stage IIIB		EPA Final Tier 4/EU Stage IV	
Displacement	4.5 L (276 cu. in.)		4.5 L (276 cu. in.)	
Gross Power at Rated Speed	55 kW (74 hp) at 2,200 rpm		70 kW (94 hp) at 2,200 rpm	
	With Canopy and 90-amp Fixed Fan	*With Cab and 120-amp Viscous Fan*		
Net Peak Power (ISO 9249)	53 kW (71 hp) at 1,950 rpm	55 kW (74 hp) at 2,050 rpm	70 kW (93 hp) at 2,240 rpm	
Net Peak Torque (ISO 9249)	310 Nm (229 lb.-ft.) at 1,300 rpm	314 Nm (232 lb.-ft.) at 1,300 rpm	388 Nm (286 lb.-ft.) at 1,400 rpm	
Net Torque Rise	39%	34%	29%	
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			
Cooling				
Fan Type	Suction-type cooling fan standard; viscous variable-rate (temperature-controlled) fan optional		Electronically controlled, variable rate, suction-type cooling fan	
Engine Coolant Rating	–40 deg. C (–40 deg. F)		–40 deg. C (–40 deg. F)	
Engine Oil Cooler	Oil to water		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	*Forward*	*Reverse*	*Forward*	*Reverse*
Gear 1	5.1 km/h (3.2 mph)	6.5 km/h (4.0 mph)	5.4 km/h (3.4 mph)	6.9 km/h (4.3 mph)
Gear 2	9.5 km/h (5.9 mph)	12.0 km/h (7.5 mph)	10.1 km/h (6.3 mph)	12.7 km/h (7.9 mph)
Gear 3	19.6 km/h (12.2 mph)	—	20.7 km/h (12.9 mph)	—
Gear 4	35.7 km/h (22.2 mph)	—	37.4 km/h (23.2 mph)	—
Axles				
Axle Oscillation, Stop to Stop, Front Axle	22 deg.		22 deg.	
Axle Ratings	*Front*	*Rear*		
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	23 500 kg (51,800 lb.)	26 500 kg (58,400 lb.)		
Ultimate	37 000 kg (81,600 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	*MFWD*	*Non-Powered Front*		
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, gear type, tandem with unloader		Open center, single-gear pump	
Pump Flow at 2,200 rpm				
Backhoe	119 L/m (31.5 gpm)		106 L/m (28 gpm)	
Loader	98 L/m (26 gpm)		106 L/m (28 gpm)	
System Relief Pressure				
Backhoe	24 993 kPa (3,625 psi)		24 993 kPa (3,625 psi)	
Loader	22 063 kPa (3,200 psi)		22 063 kPa (3,200 psi)	
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			

310L EP / 310L SPECIFICATIONS

Cylinders	310L EP / 310L		
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	310L EP	310L
Voltage	12 volt	12 volt
Alternator Rating	90 amp with canopy and quarter cab / 120 amp with cab	120 amp with canopy and quarter cab / 150 amp with cab
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 floodlights in lieu of standard halogen light package	

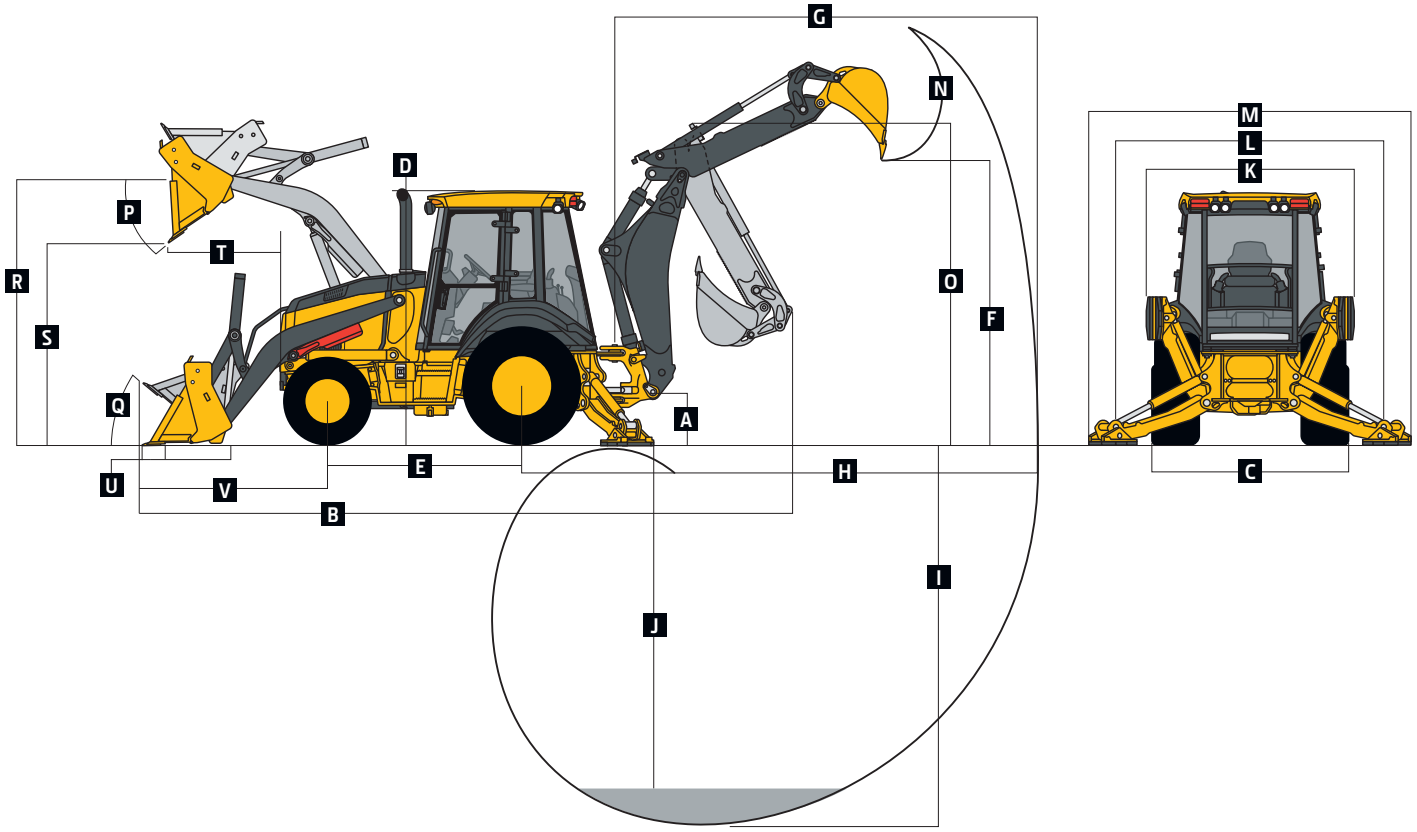
Operator Station	310L EP / 310L
Type (ISO 3471)	Canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof; optional quarter cab (front glass only) and fully enclosed cab

Tires/Wheels	310L EP		310L	
	Front	*Rear*	*Front*	*Rear*
Non-Powered Front Axle	12.5/80-18 F3 (12)	19.5L-24 R4 (12)	12.5/80-18 F3 (12)	19.5L-24 R4 (12)
With MFWD	12-16.5 NHS (12)	19.5L-24 R4 (12)	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		
Cab	25.7 L (27.2 qt.)	30.0 L (31.7 qt.)
Canopy	22.9 L (24.2 qt.)	28.2 L (29.8 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)	140.1 L (37 gal.)	140.1 L (37 gal.)
Diesel Exhaust Fluid (DEF) Tank	—	16.3 L (4.3 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	6545 kg (14,430 lb.)	6654 kg (14,669 lb.)
Typical with Cab, Extendable Dipperstick, and 204-kg (450 lb.) Counterweight	7203 kg (15,880 lb.)	7311 kg (16,119 lb.)
Optional Components (weight difference between base equipment and option)		
Cab	263 kg (580 lb.)	263 kg (580 lb.)
MFWD with Tires	168 kg (370 lb.)	168 kg (370 lb.)
Extendable Dipperstick	191 kg (420 lb.)	191 kg (420 lb.)
Front Loader Coupler	257 kg (566 lb.)	257 kg (566 lb.)
Backhoe Bucket Coupler	59 kg (130 lb.)	59 kg (130 lb.)

310L EP / 310L

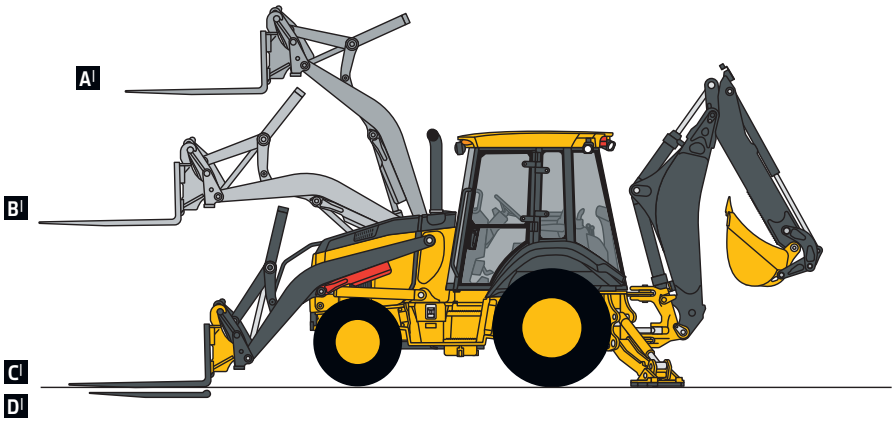
Overall Dimensions	310L EP / 310L
A Ground Clearance, Minimum	293 mm (12 in.)
B Overall Length, Transport	7.24 m (23 ft. 9 in.)
C Width Over Tires	2.16 m (7 ft. 1 in.)
D Height to Top of ROPS/Cab	2.81 m (9 ft. 3 in.)
E Length from Axle to Axle	
Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
MFWD Axle	2.19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



Backhoe Dimensions and Performance	310L EP / 310L		
Backhoe specifications are with 610-mm x 0.18-m³ (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		
Leveling Angle	14 deg.		
Stabilizer Angle Rearward	18 deg.		
		With Optional Extendable Dipperstick	
	With Standard Backhoe	*Retracted*	*Extended*
F Loading Height, Truck Loading Position	3.41 m (11 ft. 2 in.)	3.49 m (11 ft. 6 in.)	4.15 m (13 ft. 7 in.)
G Reach from Center of Swing Pivot	5.42 m (17 ft. 10 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)	4.27 m (14 ft. 0 in.)	4.33 m (14 ft. 2 in.)	5.39 m (17 ft. 8 in.)
J Digging Depth (SAE)			
610-mm (2 ft.) Flat Bottom	4.22 m (13 ft. 10 in.)	4.29 m (14 ft. 1 in.)	5.36 m (17 ft. 7 in.)
2440-mm (8 ft.) Flat Bottom	3.89 m (12 ft. 9 in.)	3.96 m (13 ft. 0 in.)	5.10 m (16 ft. 9 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	3.42 m (11 ft. 2 in.)	3.42 m (11 ft. 2 in.)	3.42 m (11 ft. 2 in.)

Loader Dimensions and Performance	310L EP / 310L			
P Bucket Dump Angle, Maximum	45 deg.			
Q Rollback Angle at Ground Level	40 deg.			
	Heavy-duty	*Heavy-duty*	*Heavy-duty long lip*	*Multipurpose*
Bucket Capacity	0.77 m^3 (1.00 cu. yd.)	0.86 m^3 (1.12 cu. yd.)	0.96 m^3 (1.25 cu. yd.)	0.96 m^3 (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 (9,353 lb.)	42.3 kN (9,504 lb.)	39.9 kN (8,978 lb.)	37.0 kN (8,311 lb.)
Lift Capacity, Full Height	3099 kg (6,833 lb.)	3179 kg (7,009 lb.)	2934 kg (6,469 lb.)	2605 kg (5,743 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.	2.71 m (8 ft. 11 in.)	2.74 m (9 ft. 0 in.)	2.64 m (8 ft. 8 in.)	2.65 m (8 ft. 8 in.)
T Reach at Full Height, Bucket at 45 deg.	734 mm (28.9 in.)	699 mm (27.5 in.)	825 mm (32.5 in.)	737 mm (29.0 in.)
U Digging Depth Below Ground, Bucket Level	107 mm (4.2 in.)	107 mm (4.2 in.)	88 mm (3.5 in.)	147 mm (5.8 in.)
V 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.)	2.09 m (6 ft. 10 in.)

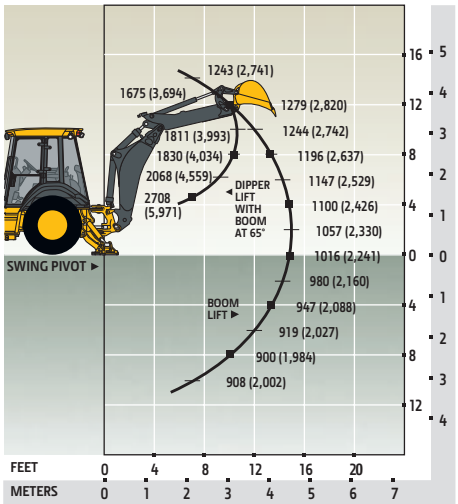
Lift Capacity with Quick-Coupler Forks		
Hydraulic Capacity	*1219-mm (48 in.) Tines*	*1524-mm (60 in.) Tines*
A[I] Maximum Height	1711 kg (3,772 lb.)	1592 kg (3,510 lb.)
B[I] Maximum Reach	2690 kg (5,931 lb.)	2530 kg (5,578 lb.)
C[I] At Ground Line	3393 kg (7,480 lb.)	3203 kg (7,061 lb.)
D[I] Below Ground Line	222 mm (8.7 in.)	222 mm (8.7 in.)



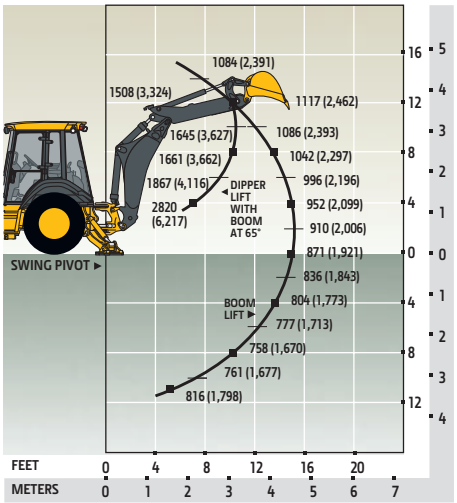
Lift Capacity with Bucket

Lift capacities are over-end values in kg (lb.) according to SAE J31. Figures listed are 87% of the maximum lift force available. Calculated with 610-mm x 0.18-m^3 (24 in. x 6.5 cu. ft.) bucket. Bucket impacts overall lift capacity.

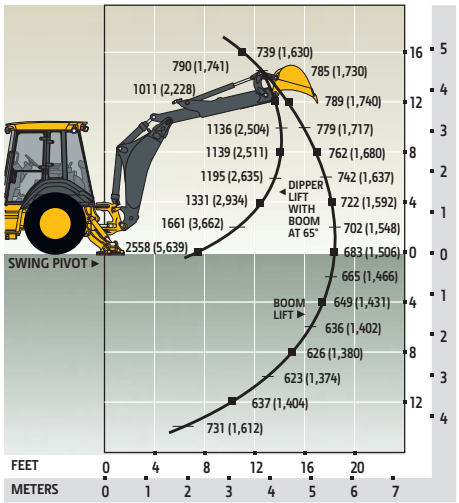
STANDARD LIFT
With Standard Dipperstick



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



310SL SPECIFICATIONS

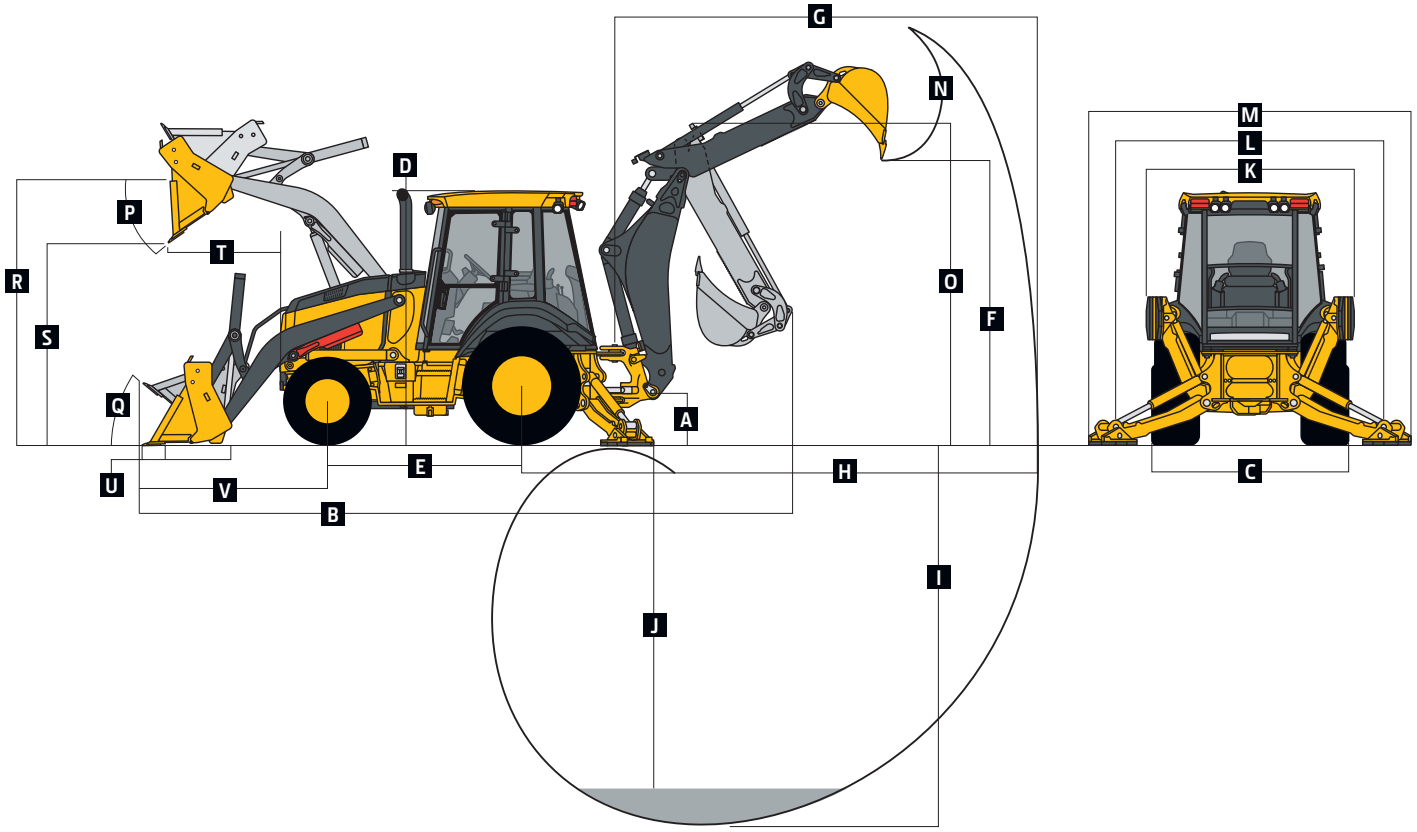
Engine	310SL	
Manufacturer and Model	John Deere PowerTech™ Plus 4045HT096 turbocharged	
Non-Road Emission Standard	EPA Final Tier 4/EU Stage IV	
Displacement	4.5 L (276 cu. in.)	
Gross Power at Rated Speed	75 kW (101 hp) at 2,200 rpm	
Net Peak Power (ISO 9249)	75 kW (100 hp) at 2,240 rpm	
Net Peak Torque (ISO 9249)	422 Nm (312 lb.-ft.) at 1,400 rpm	
Net Torque Rise	31%	
Lubrication	Pressure system with spin-on filter and cooler	
Air Cleaner	Dual-stage dry type with safety element and evacuator valve	
Cooling		
Fan Type	Electronically controlled, variable-rate, suction-type cooling fan	
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*
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)	12.7 km/h (7.9 mph)
Gear 3	20.7 km/h (12.9 mph)	20.4 km/h (12.7 mph)
Gear 4	37.8 km/h (23.5 mph)	—
Gear 5	40.0 km/h (24.9 mph)	—
Axles		
Axle Oscillation, Stop to Stop, Front Axle	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	23 500 kg (51,800 lb.)	26 500 kg (58,400 lb.)
Ultimate	37 000 kg (81,600 lb.)	39 500 kg (87,100 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, gear type, tandem with unloader	
Pump Flow at 2,200 rpm		
Backhoe	136 L/m (36 gpm)	
Loader	106 L/m (28 gpm)	
System Relief Pressure		
Backhoe	24 993 kPa (3,625 psi)	
Loader	24 993 kPa (3,625 psi)	
Controls		
Backhoe	2-lever mechanical standard; pilot controls 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	

310SL SPECIFICATIONS

Cylinders	310SL		
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.)
Longer Optional	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	120 amp with canopy and quarter cab / 150 amp with cab		
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 floodlights in lieu of standard halogen light package		
Operator Station			
Type (ISO 3471)	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)	
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			
Cooling System			
Cab	30.0 L (31.7 qt.)		
Canopy	28.2 L (29.8 qt.)		
Rear Axle	18 L (19 qt.)		
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)		
Torque Converter and Transmission	15.1 L (16 qt.)		
Fuel Tank (with ground-level fueling)	140.1 L (37 gal.)		
Diesel Exhaust Fluid (DEF) Tank	16.3 L (4.3 gal.)		
Hydraulic System	126.8 L (33.5 gal.)		
Hydraulic Reservoir	45 L (11.9 gal.)		
MFWD Housing			
Axle	6.5 L (6.9 qt.)		
Planetary (each)	0.9 L (1 qt.)		
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and Bumper	7199 kg (15,872 lb.)		
Typical with Cab, Extendable Dipperstick, and 340-kg (750 lb.) Counterweight	8025 kg (17,692 lb.)		
Optional Components (weight difference between base equipment and option)			
Cab	263 kg (580 lb.)		
MFWD with Tires	220 kg (485 lb.)		
Extendable Dipperstick	222 kg (490 lb.)		
Front Loader Coupler	257 kg (566 lb.)		
Backhoe Bucket Coupler	63 kg (138 lb.)		

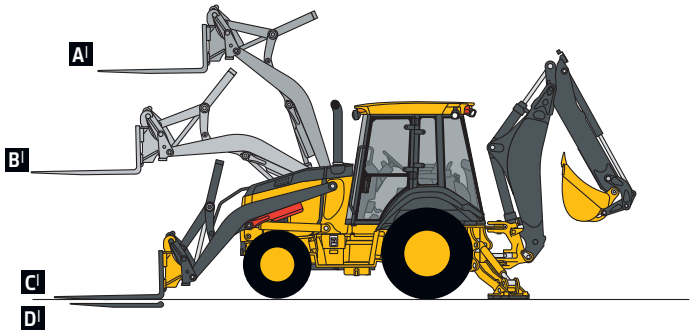
310SL

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	2.18 m (7 ft. 2 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			
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 (12,356 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	3.43 m (11 ft. 3 in.)	3.55 m (11 ft. 8 in.)	4.17 m (13 ft. 8 in.)
G Reach from Center of Swing Pivot	5.52 m (18 ft. 1 in.)	5.62 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)	4.34 m (14 ft. 3 in.)	4.48 m (14 ft. 8 in.)	5.53 m (18 ft. 2 in.)
J Digging Depth (SAE)			
610-mm (2 ft.) Flat Bottom	4.31 m (14 ft. 2 in.)	4.44 m (14 ft. 7 in.)	5.49 m (18 ft. 0 in.)
2440-mm (8 ft.) Flat Bottom	3.97 m (13 ft. 0 in.)	4.11 m (13 ft. 6 in.)	5.24 m (17 ft. 2 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.)

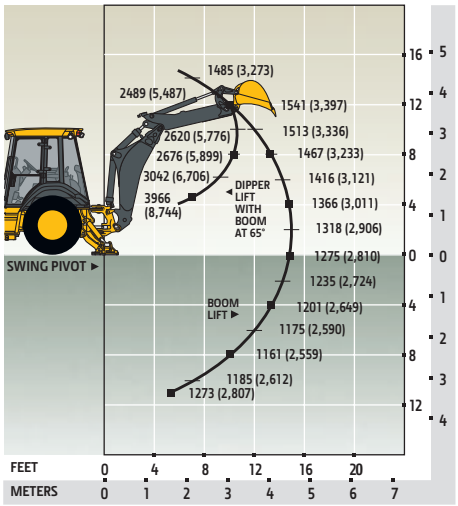
Backhoe Dimensions and Performance *(continued)*	310SL			
		With Optional Extendable Dipperstick		
	With Standard Backhoe	*Retracted*	*Extended*	
N Bucket Rotation	190 deg.	190 deg.	190 deg.	
O Transport Height	3.49 m (11 ft. 6 in.)	3.50 m (11 ft. 6 in.)	3.50 m (11 ft. 6 in.)	
Loader Dimensions and Performance				
P Bucket Dump Angle, Maximum	45 deg.			
Q Rollback Angle at Ground Level	40 deg.			
	Heavy-duty	*Heavy-duty long lip*	*Heavy-duty*	*Multipurpose*
Bucket Capacity	0.86 m^3 (1.12 cu. yd.)	0.96 m^3 (1.25 cu. yd.)	1.00 m^3 (1.31 cu. yd.)	1.00 m^3 (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	49.1 kN (11,045 lb.)	46.4 kN (10,438 lb.)	46.8 kN (10,532 lb.)	43.2 kN (9,714 lb.)
Lift Capacity, Full Height	3462 kg (7,632 lb.)	3198 kg (7,050 lb.)	3322 kg (7,324 lb.)	2834 kg (6,248 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.	2.62 m (8 ft. 7 in.)	2.64 m (8 ft. 8 in.)	2.68 m (8 ft. 10 in.)	2.65 m (8 ft. 8 in.)
T Reach at Full Height, Bucket at 45 deg.	699 mm (27.5 in.)	825 mm (32.5 in.)	695 mm (27.4 in.)	737 mm (29.0 in.)
U Digging Depth Below Ground, Bucket Level	106 mm (4.2 in.)	87 mm (3.4 in.)	151 mm (5.9 in.)	147 mm (5.8 in.)
V Length from Front Axle Centerline to Bucket Cutting Edge	1.97 m (6 ft. 6 in.)	2.12 m (6 ft. 11 in.)	2.04 m (6 ft. 8 in.)	2.09 m (6 ft. 10 in.)
Lift Capacity with Quick-Coupler Forks				
Hydraulic Capacity	*1219-mm (48 in.) Tines*	*1524-mm (60 in.) Tines*		
A[I] Maximum Height	2002 kg (4,413 lb.)	1872 kg (4,126 lb.)		
B[I] Maximum Reach	3149 kg (6,943 lb.)	2969 kg (6,545 lb.)		
C[I] At Ground Line	4007 kg (8,833 lb.)	3789 kg (8,353 lb.)		
D[I] Below Ground Line	228 mm (9 in.)	228 mm (9 in.)		



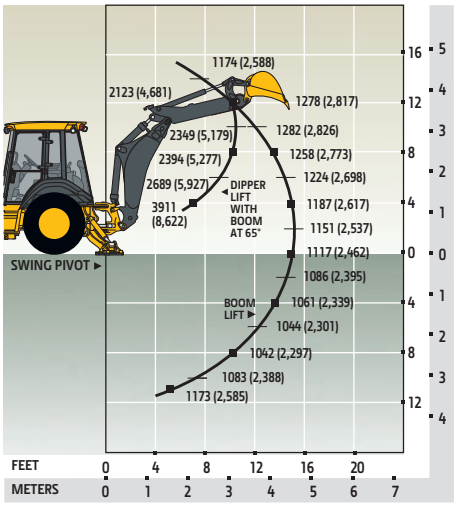
Lift Capacity with Bucket

Lift capacities are over-end values in kg (lb.) according to SAE J31. Figures listed are 87% of the maximum lift force available. Calculated with 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) bucket. Bucket impacts overall lift capacity.

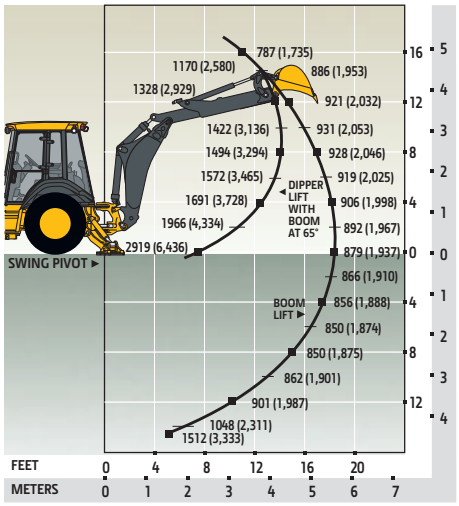
STANDARD LIFT
With Standard Dipperstick



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



310SL HL SPECIFICATIONS

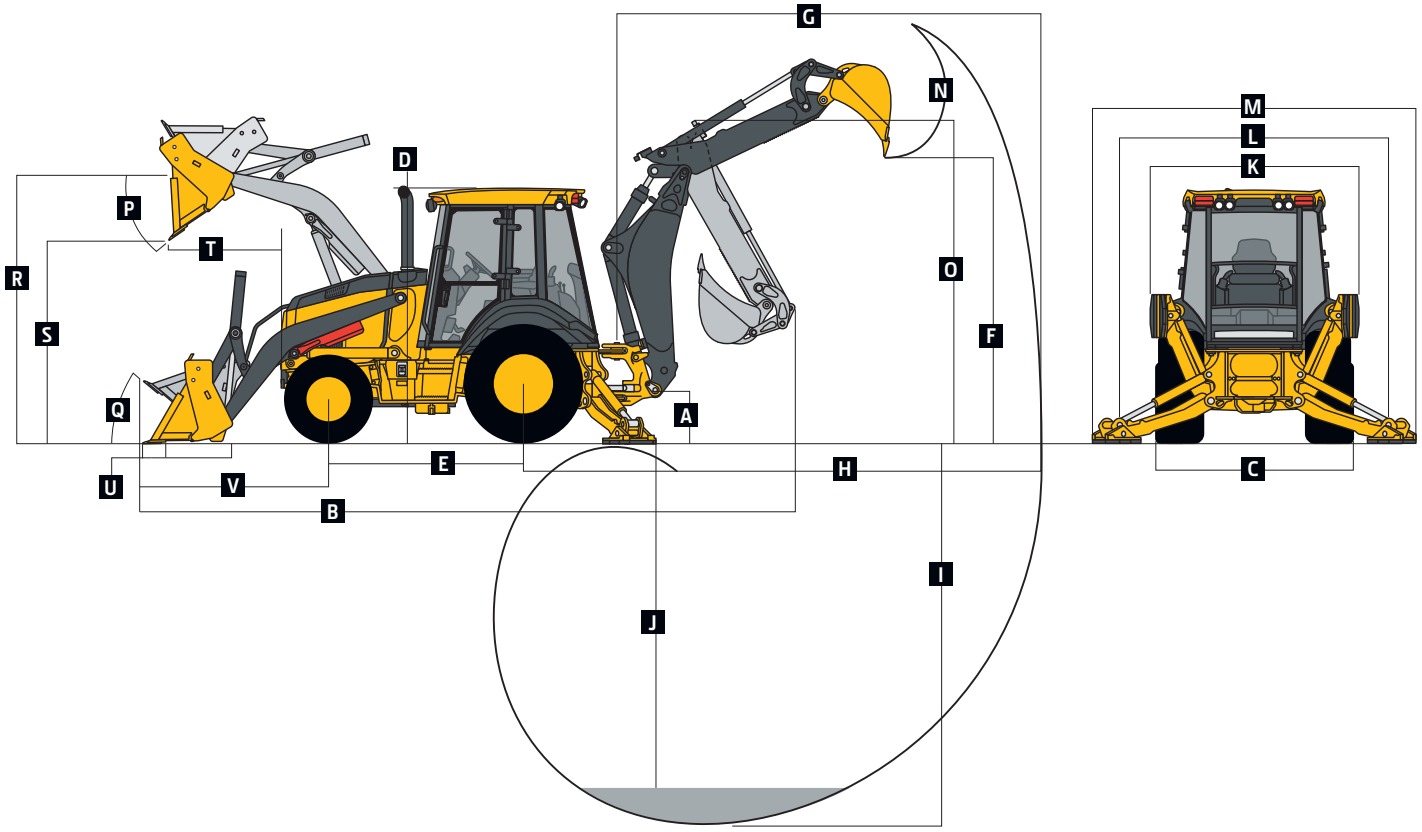
Engine	310SL HL	
Manufacturer and Model	John Deere PowerTech™ Plus 4045HT096 turbocharged	
Non-Road Emission Standard	EPA Final Tier 4/EU Stage IV	
Displacement	4.5 L (276 cu. in.)	
Gross Power at Rated Speed	83 kW (111 hp) at 2,200 rpm	
Net Peak Power (ISO 9249)	82 kW (110 hp) at 2,240 rpm	
Net Peak Torque (ISO 9249)	432 Nm (319 lb.-ft.) at 1,400 rpm	
Net Torque Rise	22%	
Lubrication	Pressure system with spin-on filter and cooler	
Air Cleaner	Dual-stage dry type with safety element and evacuator valve	
Cooling		
Fan Type	Electronically controlled, variable rate, suction-type cooling fan	
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*
Gear 1	5.7 km/h (3.5 mph)	7.2 km/h (4.5 mph)
Gear 2	10.4 km/h (6.5 mph)	13.1 km/h (8.1 mph)
Gear 3	21.4 km/h (13.3 mph)	21.1 km/h (13.1 mph)
Gear 4	39.0 km/h (24.2 mph)	—
Gear 5	40.0 km/h (24.9 mph)	—
Axles		
Axle Oscillation, Stop to Stop, Front Axle	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	23 500 kg (51,800 lb.)	26 500 kg (58,400 lb.)
Ultimate	37 000 kg (81,600 lb.)	39 500 kg (87,100 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	10.27 m (33 ft. 8 in.)	10.26 m (33 ft. 8 in.)
Without Brakes	11.17 m (36 ft. 8 in.)	11.15 m (36 ft. 7 in.)
Steering Wheel Turns (lock to lock)	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	159 L/m (42 gpm)	
Loader	159 L/m (42 gpm)	
System Relief Pressure		
Backhoe	24 993 kPa (3,625 psi)	
Lift Mode	27 579 kPa (4,000 psi)	
Loader	24 993 kPa (3,625 psi)	
Controls		
Backhoe	Pilot controls with pattern select standard; electrohydraulic (EH) auxiliary functions optional	
Loader	Single-lever control with electric clutch cutoff switch and MFWD (momentary) standard; single-lever control with electric clutch cutoff switch, EH proportional auxiliary roller, and transmission quick-shift optional	

310SL HL *SPECIFICATIONS*

Cylinders	**310SL HL**		
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)	125 mm (4.92 in.)	63 mm (2.48 in.)	887 mm (34.92 in.)
Backhoe Crowd (1)	120 mm (4.72 in.)	63 mm (2.48 in.)	591 mm (23.27 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)	80 mm (3.15 in.)	45 mm (1.77 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.)
Longer Optional	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	120 amp with canopy and quarter cab / 150 amp with cab		
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 floodlights in lieu of standard halogen light package		
Operator Station			
Type (ISO 3471)	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)	
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			
Cooling System			
Cab	31.4 L (33.2 qt.)		
Canopy	29.6 L (31.3 qt.)		
Rear Axle	18 L (19 qt.)		
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)		
Torque Converter and Transmission	15.1 L (16 qt.)		
Fuel Tank (with ground-level fueling)	140.1 L (37 gal.)		
Diesel Exhaust Fluid (DEF) Tank	16.3 L (4.3 gal.)		
Hydraulic System	126.8 L (33.5 gal.)		
Hydraulic Reservoir	45 L (11.9 gal.)		
MFWD Housing			
Axle	6.5 L (6.9 qt.)		
Planetary (each)	0.9 L (1 qt.)		
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and 567-kg (1,250 lb.) Counterweight	8269 kg (18,231 lb.)		
Typical with Cab and 567-kg (1,250 lb.) Counterweight	8533 kg (18,811 lb.)		
Optional Components (weight difference between base equipment and option)			
Cab	263 kg (580 lb.)		
MFWD with Tires	110 kg (242 lb.)		
Front Loader Coupler	257 kg (566 lb.)		
Backhoe Bucket Coupler	64 kg (141 lb.)		

310SL HL

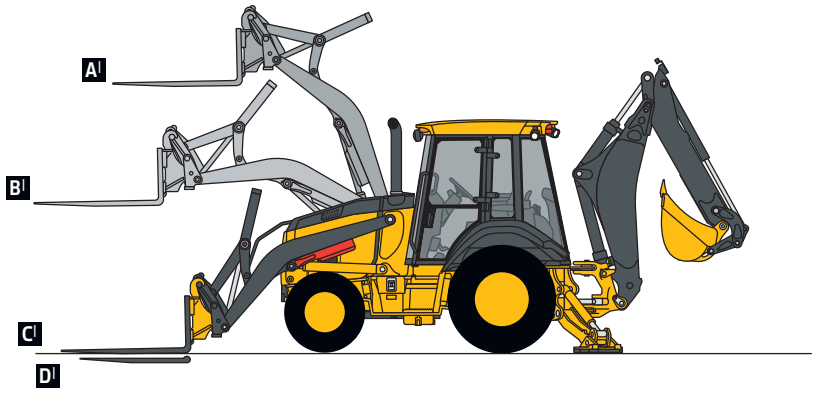
Overall Dimensions	310SL HL
A Ground Clearance, Minimum	310 mm (12 in.)
B Overall Length, Transport	7.37 m (24 ft. 2 in.)
C Width Over Tires	2.18 m (7 ft. 2 in.)
D Height to Top of ROPS/Cab	2.81 m (9 ft. 3 in.)
E Length from Axle to Axle	
Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
MFWD Axle	2.19 m (7 ft. 2 in.)



Backhoe Dimensions and Performance		
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	305–610 mm (12–24 in.)	
Digging Force		
Bucket Cylinder	70.9 kN (15,947 lb.)	
Lift Mode	78.3 kN (17,596 lb.)	
Crowd Cylinder	38.9 kN (8,750 lb.)	
Lift Mode	42.9 kN (9,655 lb.)	
Swing Arc	180 deg.	
Operator Control	2 levers	
	With Extendable Dipperstick Retracted	*With Extendable Dipperstick Extended*
F Loading Height, Truck Loading Position	3.63 m (11 ft. 11 in.)	4.25 m (13 ft. 11 in.)
G Reach from Center of Swing Pivot	5.62 m (18 ft. 5 in.)	6.60 m (21 ft. 8 in.)
H Reach from Center of Rear Axle	6.68 m (21 ft. 11 in.)	7.67 m (25 ft. 2 in.)
I Digging Depth (SAE maximum)	4.51 m (14 ft. 10 in.)	5.52 m (18 ft. 1 in.)
J Digging Depth (SAE)		
610-mm (2 ft.) Flat Bottom	4.47 m (14 ft. 8 in.)	5.49 m (18 ft. 0 in.)
2440-mm (8 ft.) Flat Bottom	4.16 m (13 ft. 8 in.)	5.26 m (17 ft. 3 in.)
K Stabilizer Width, Transport	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.)
Long Stabilizers	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.)
Long Stabilizers	4.03 m (13 ft. 3 in.)	4.03 m (13 ft. 3 in.)
N Bucket Rotation	190 deg.	190 deg.
O Transport Height	3.57 m (11 ft. 9 in.)	3.57 m (11 ft. 9 in.)

Loader Dimensions and Performance	310SL HL			
P Bucket Dump Angle, Maximum	45 deg.			
Q Rollback Angle at Ground Level	40 deg.			
	Heavy-duty	*Heavy-duty long lip*	*Heavy-duty*	*Multipurpose*
Bucket Capacity	0.86 m^3 (1.12 cu. yd.)	0.96 m^3 (1.25 cu. yd.)	1.00 m^3 (1.31 cu. yd.)	1.00 m^3 (1.31 cu. yd.)
Width	2184 mm (86 in.)	2184 mm (86 in.)	2346 mm (92 in.)	2346 mm (92 in.)
Weight	390 kg (860 lb.)	405 kg (892 lb.)	521 kg (1,148 lb.)	863 kg (1,902 lb.)
Breakout Force	49.4 kN (11,106 lb.)	46.7 kN (10,497 lb.)	47.1 kN (10,587 lb.)	43.4 kN (9,767 lb.)
Lift Capacity, Full Height	3397 kg (7,489 lb.)	3141 kg (6,924 lb.)	3257 kg (7,181 lb.)	2774 kg (6,116 lb.)
R Height to Bucket Hinge Pin, Maximum	3.43 m (11 ft. 3 in.)	3.43 m (11 ft. 3 in.)	3.43 m (11 ft. 3 in.)	3.43 m (11 ft. 3 in.)
S Dump Clearance, Bucket at 45 deg.	2.73 m (8 ft. 11 in.)	2.63 m (8 ft. 8 in.)	2.67 m (8 ft. 9 in.)	2.63 m (8 ft. 8 in.)
T Reach at Full Height, Bucket at 45 deg.	744 mm (29.3 in.)	870 mm (34.2 in.)	740 mm (29.1 in.)	782 mm (30.8 in.)
U Digging Depth Below Ground, Bucket Level	124 mm (4.9 in.)	105 mm (4.1 in.)	168 mm (6.6 in.)	164 mm (6.5 in.)
V Length from Front Axle Centerline to Bucket Cutting Edge	1.98 m (6 ft. 6 in.)	2.13 m (7 ft. 0 in.)	2.05 m (6 ft. 9 in.)	2.10 m (6 ft. 11 in.)

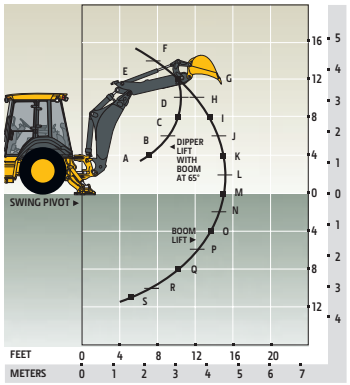
Lift Capacity with Quick-Coupler Forks		
Hydraulic Capacity	*1219-mm (48 in.) Tines*	*1524-mm (60 in.) Tines*
A[I] Maximum Height	2002 kg (4,413 lb.)	1872 kg (4,126 lb.)
B[I] Maximum Reach	3149 kg (6,943 lb.)	2969 kg (6,545 lb.)
C[I] At Ground Line	4007 kg (8,833 lb.)	3789 kg (8,353 lb.)
D[I] Below Ground Line	228 mm (9 in.)	228 mm (9 in.)



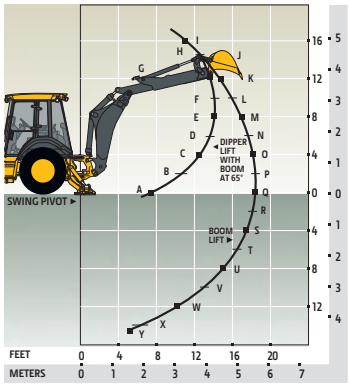
Lift Capacity with Bucket

Lift capacities are over-end values in kg (lb.) according to SAE J31. Figures listed are 87% of the maximum lift force available. Calculated with 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) bucket. Bucket impacts overall lift capacity.

	With 1.06-m (3 ft. 6 in.) Extendable Dipperstick, Retracted		*With 1.06-m (3 ft. 6 in.) Extendable Dipperstick, Extended*	
	Standard Lift	*Lift Mode*	*Standard Lift*	*Lift Mode*
A	4588 kg (10,116 lb.)	4591 kg (10,122 lb.)	3404 kg (7,504 lb.)	3811 kg (8,401 lb.)
B	3012 kg (6,640 lb.)	3012 kg (6,640 lb.)	2165 kg (4,772 lb.)	2435 kg (5,367 lb.)
C	2652 kg (5,846 lb.)	2652 kg (5,846 lb.)	1873 kg (4,130 lb.)	2111 kg (4,653 lb.)
D	2583 kg (5,694 lb.)	2583 kg (5,694 lb.)	1761 kg (3,883 lb.)	1955 kg (4,309 lb.)
E	2553 kg (5,629 lb.)	2727 kg (6,011 lb.)	1698 kg (3,744 lb.)	1853 kg (4,086 lb.)
F	1131 kg (2,494 lb.)	1303 kg (2,872 lb.)	1647 kg (3,630 lb.)	1832 kg (4,039 lb.)
G	1338 kg (2,951 lb.)	1539 kg (3,392 lb.)	1578 kg (3,480 lb.)	1781 kg (3,926 lb.)
H	1388 kg (3,061 lb.)	1598 kg (3,522 lb.)	1452 kg (3,202 lb.)	1641 kg (3,617 lb.)
I	1390 kg (3,064 lb.)	1602 kg (3,532 lb.)	725 kg (1,599 lb.)	847 kg (1,867 lb.)
J	1372 kg (3,025 lb.)	1584 kg (3,493 lb.)	899 kg (1,982 lb.)	1044 kg (2,302 lb.)
K	1346 kg (2,968 lb.)	1558 kg (3,435 lb.)	977 kg (2,154 lb.)	1133 kg (2,499 lb.)
L	1318 kg (2,907 lb.)	1529 kg (3,371 lb.)	1014 kg (2,235 lb.)	1176 kg (2,594 lb.)
M	1292 kg (2,848 lb.)	1501 kg (3,310 lb.)	1030 kg (2,270 lb.)	1196 kg (2,637 lb.)
N	1269 kg (2,798 lb.)	1478 kg (3,259 lb.)	1034 kg (2,280 lb.)	1203 kg (2,651 lb.)
O	1254 kg (2,764 lb.)	1463 kg (3,226 lb.)	1032 kg (2,276 lb.)	1202 kg (2,651 lb.)
P	1251 kg (2,757 lb.)	1463 kg (3,255 lb.)	1028 kg (2,266 lb.)	1199 kg (2,642 lb.)
Q	1273 kg (2,807 lb.)	1492 kg (3,288 lb.)	1022 kg (2,253 lb.)	1194 kg (2,632 lb.)
R	1376 kg (3,034 lb.)	1614 kg (3,557 lb.)	1018 kg (2,243 lb.)	1191 kg (2,625 lb.)
S	1570 kg (3,460 lb.)	1839 kg (4,053 lb.)	1016 kg (2,240 lb.)	1191 kg (2,625 lb.)
T	—	—	1020 kg (2,249 lb.)	1197 kg (2,639 lb.)
U	—	—	1034 kg (2,279 lb.)	1214 kg (2,677 lb.)
V	—	—	1066 kg (2,351 lb.)	1254 kg (2,764 lb.)
W	—	—	1145 kg (2,524 lb.)	1346 kg (2,968 lb.)
X	—	—	1428 kg (3,149 lb.)	1675 kg (3,693 lb.)
Y	—	—	3058 kg (6,741 lb.)	3552 kg (7,831 lb.)



With Extendable Dipperstick, Retracted



With Extendable Dipperstick, Extended

315SL SPECIFICATIONS

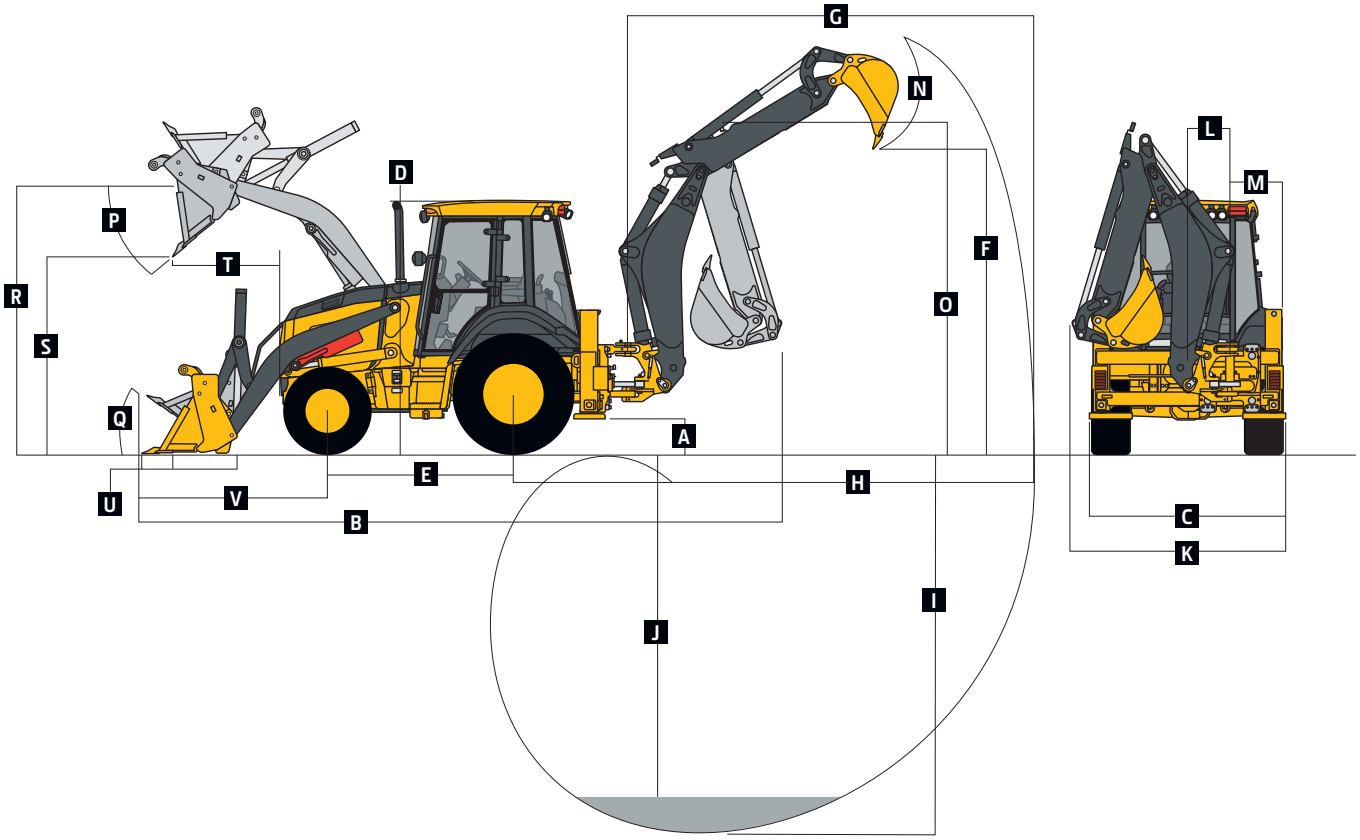
Engine	**315SL**	
Manufacturer and Model	John Deere PowerTech™ Plus 4045HT096 turbocharged	
Non-Road Emission Standard	EPA Final Tier 4/EU Stage IV	
Displacement	4.5 L (276 cu. in.)	
Gross Power at Rated Speed	75 kW (101 hp) at 2,200 rpm	
Net Peak Power (ISO 9249)	75 kW (100 hp) at 2,240 rpm	
Net Peak Torque (ISO 9249)	422 Nm (312 lb.-ft.) at 1,400 rpm	
Net Torque Rise	31%	
Lubrication	Pressure system with spin-on filter and cooler	
Air Cleaner	Dual-stage dry type with safety element and evacuator valve	
Cooling		
Fan Type	Electronically controlled, variable-rate, suction-type cooling fan	
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	*Forward*	*Reverse*
Gear 1	5.8 km/h (3.6 mph)	7.4 km/h (4.6 mph)
Gear 2	10.7 km/h (6.6 mph)	13.6 km/h (8.5 mph)
Gear 3	22.1 km/h (13.7 mph)	21.8 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	*Front*	*Rear*
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	23 500 kg (51,800 lb.)	26 500 kg (58,400 lb.)
Ultimate	37 000 kg (81,600 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	*MFWD*	*Non-Powered Front*
Curb-Turning Radius		
With Brakes	3.60 m (11 ft. 10 in.)	3.58 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	10.25 m (33 ft. 8 in.)	10.24 m (33 ft. 7 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 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, gear type, tandem with unloader	
Pump Flow at 2,200 rpm		
Backhoe	136 L/m (36 gpm)	
Loader	106 L/m (28 gpm)	
System Relief Pressure		
Backhoe	24 993 kPa (3,625 psi)	
Loader	24 993 kPa (3,625 psi)	
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	

315SL SPECIFICATIONS

Cylinders	315SL		
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 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.)
MFWD (1)	65 mm (2.56 in.)	40 mm (1.57 in.)	210 mm (8.27 in.)
Electrical			
Voltage	12 volt		
Alternator Rating	150 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 floodlights in lieu of standard halogen light package		
Operator Station			
Type (ISO 3471)	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)	
	12.5/80-18 F3 (12)	16.9L-28 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)	
	12.5/80-18 R4 (10)	16.9L-28 R4 (12)	
	340/80R18 XMCL	500/70R24 XMCL	
	340/80R18 550	550/70R24 550	
	340/80R18 580	500/70R24 580	
	340/80R18 550	440/80R28 550	
Serviceability			
Refill Capacities			
Cooling System			
Cab	30 L (31.7 qt.)		
Canopy	28.2 L (29.8 qt.)		
Rear Axle	18 L (19 qt.)		
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)		
Torque Converter and Transmission	15.1 L (16 qt.)		
Fuel Tank (with ground-level fueling)	140.1 L (37 gal.)		
Diesel Exhaust Fluid (DEF) Tank	16.3 L (4.3 gal.)		
Hydraulic System	126.8 L (33.5 gal.)		
Hydraulic Reservoir	45 L (11.9 gal.)		
MFWD Housing			
Axle	6.5 L (6.9 qt.)		
Planetary (each)	0.9 L (1 qt.)		
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and Bumper	7962 kg (17,554 lb.)		
Typical with Extendable Dipperstick and 204-kg (450 lb.) Counterweight	8389 kg (18,494 lb.)		
Optional Components (weight difference between base equipment and option)			
MFWD with Tires	220 kg (485 lb.)		
Extendable Dipperstick	222 kg (490 lb.)		

315SL

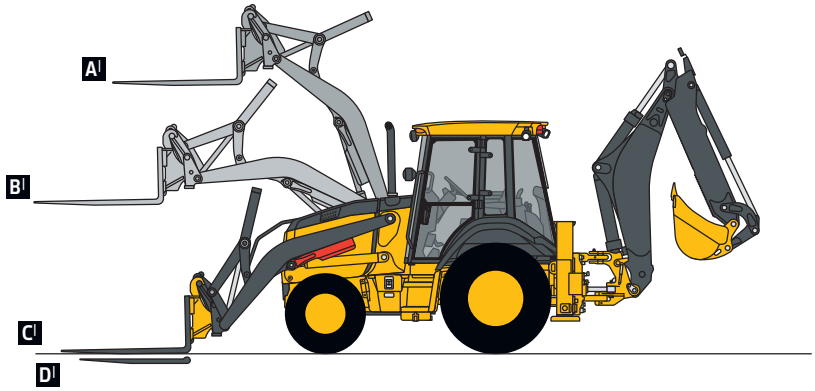
Overall Dimensions	315SL
A Ground Clearance, Minimum	351 mm (14 in.)
B Overall Length, Transport	5.96 m (19 ft. 7 in.)
C Stabilizer Spread	2.26 m (7 ft. 5 in.)
D Height to Top of ROPS/Cab	2.84 m (9 ft. 4 in.)
E Length from Axle to Axle	
Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
MFWD Axle	2.19 m (7 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 (12,356 lb.)		
With Heavy-Duty Cylinder Option	67.8 kN (15,254 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	3.57 m (11 ft. 8 in.)	3.69 m (12 ft. 1 in.)	4.31 m (14 ft. 2 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)	4.17 m (13 ft. 8 in.)	4.34 m (14 ft. 3 in.)	5.39 m (17 ft. 8 in.)
J Digging Depth (SAE)			
610-mm (2 ft.) Flat Bottom	4.13 m (13 ft. 6 in.)	4.30 m (14 ft. 1 in.)	5.35 m (17 ft. 7 in.)
2440-mm (8 ft.) Flat Bottom	3.77 m (12 ft. 5 in.)	3.96 m (13 ft. 0 in.)	5.09 m (16 ft. 9 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	3.63 m (11 ft. 11 in.)	3.63 m (11 ft. 11 in.)	3.63 m (11 ft. 11 in.)

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^3 (1.00 cu. yd.)	1.00 m^3 (1.31 cu. yd.)	0.96 m^3 (1.25 cu. yd.)	1.00 m^3 (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	48.3 kN (10,866 lb.)	46.8 kN (10,532 lb.)	43.5 kN (9,789 lb.)	43.2 kN (9,714 lb.)
Lift Capacity, Full Height	3375 kg (7,440 lb.)	3322 kg (7,324 lb.)	2875 kg (6,338 lb.)	2834 kg (6,248 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.	2.71 m (8 ft. 11 in.)	2.68 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.	734 mm (28.9 in.)	695 mm (27.4 in.)	737 mm (29.0 in.)	737 mm (29.0 in.)
U Digging Depth Below Ground, Bucket Level	106 mm (4.2 in.)	151 mm (5.9 in.)	147 mm (5.8 in.)	147 mm (5.8 in.)
V Length from Front Axle Centerline to Bucket Cutting Edge	2.02 m (6 ft. 8 in.)	2.04 m (6 ft. 8 in.)	2.09 m (6 ft. 10 in.)	2.09 m (6 ft. 10 in.)

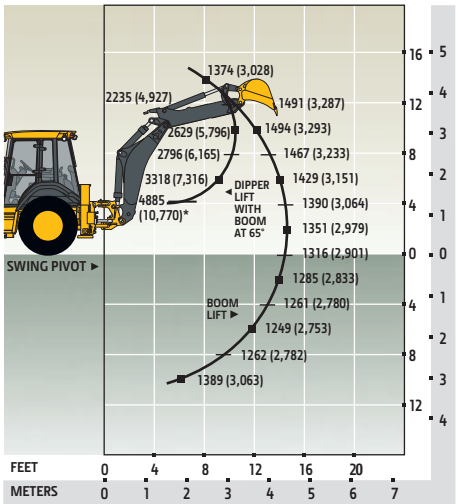
Lift Capacity with Quick-Coupler Forks		
Hydraulic Capacity	*1219-mm (48 in.) Tines*	*1524-mm (60 in.) Tines*
A[I] Maximum Height	2002 kg (4,413 lb.)	1872 kg (4,126 lb.)
B[I] Maximum Reach	3149 kg (6,943 lb.)	2969 kg (6,545 lb.)
C[I] At Ground Line	4007 kg (8,833 lb.)	3789 kg (8,353 lb.)
D[I] Below Ground Line	228 mm (9 in.)	228 mm (9 in.)



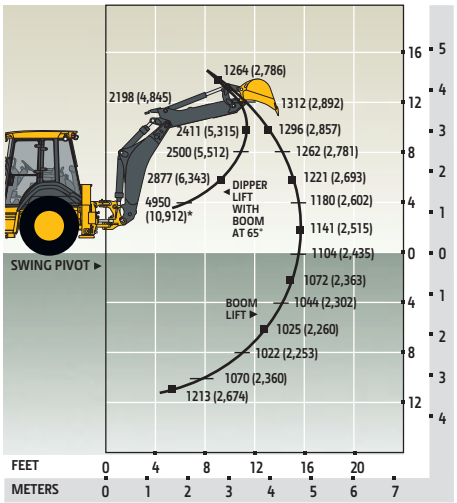
Lift Capacity with Bucket

Lift capacities are over-end values in kg (lb.) according to SAE J31. Figures listed are 87% of the maximum lift force available. Calculated with 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) bucket. Bucket impacts overall lift capacity.

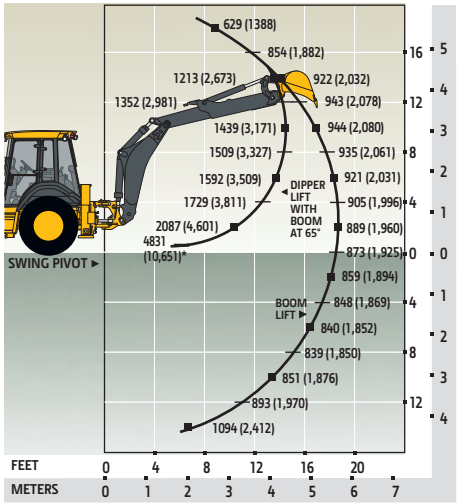
STANDARD LIFT
With Standard Dipperstick



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.

410L SPECIFICATIONS

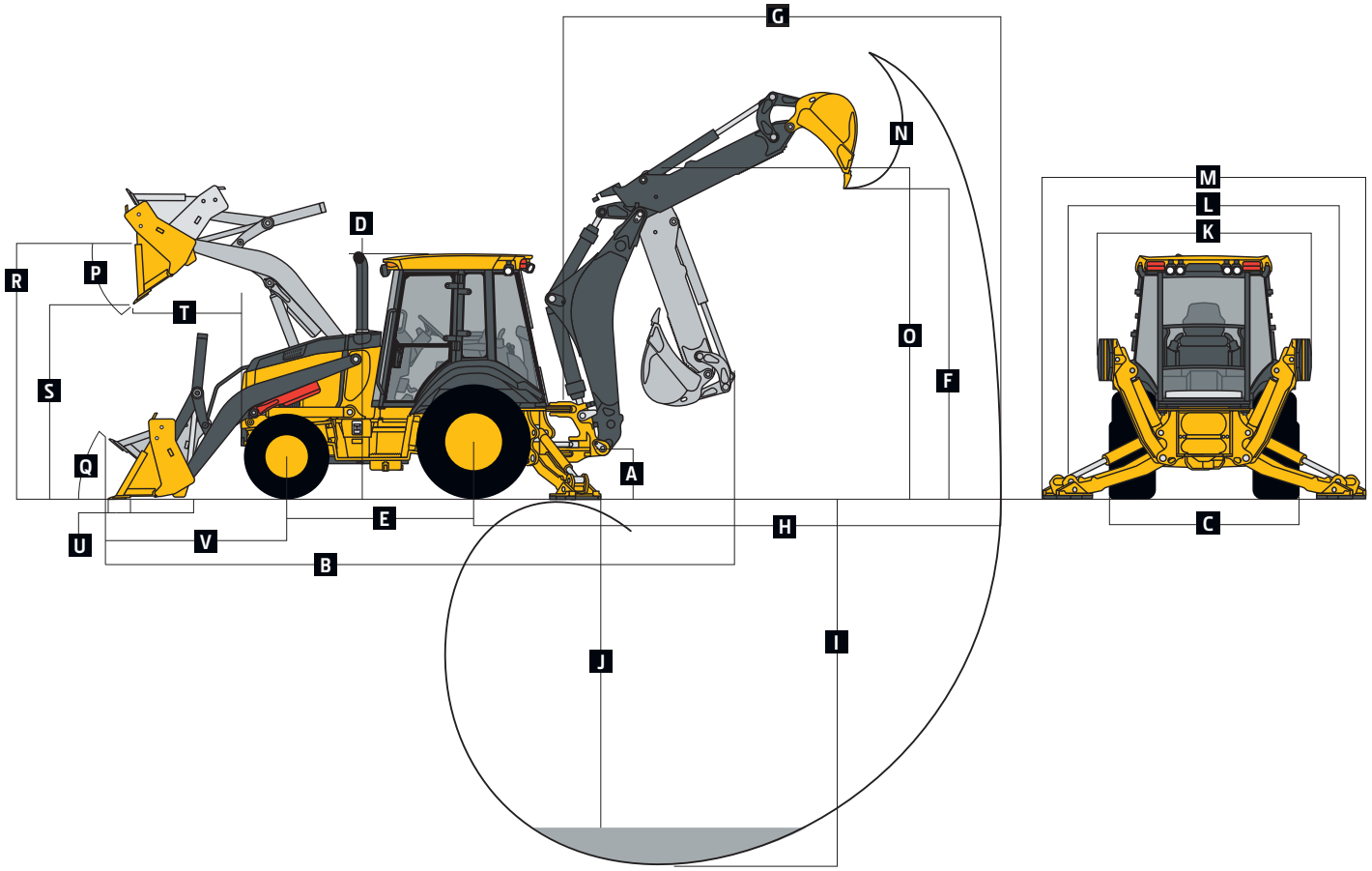
Engine	**410L**	
Manufacturer and Model	John Deere PowerTech™ Plus 4045HT096 turbocharged	
Non-Road Emission Standard	EPA Final Tier 4/EU Stage IV	
Displacement	4.5 L (276 cu. in.)	
Gross Power at Rated Speed	85 kW (114 hp) at 2,200 rpm	
Net Peak Power (ISO 9249)	84 kW (113 hp) at 2,240 rpm	
Net Peak Torque (ISO 9249)	452 Nm (334 lb.-ft.) at 1,400 rpm	
Net Torque Rise	24%	
Lubrication	Pressure system with spin-on filter and cooler	
Air Cleaner	Dual-stage dry type with safety element and evacuator valve	
Cooling		
Fan Type	Electronically controlled, variable rate, suction-type cooling fan	
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*
Gear 1	5.7 km/h (3.5 mph)	7.2 km/h (4.5 mph)
Gear 2	10.4 km/h (6.5 mph)	13.1 km/h (8.1 mph)
Gear 3	21.4 km/h (13.3 mph)	21.1 km/h (13.1 mph)
Gear 4	38.9 km/h (24.2 mph)	—
Gear 5	40.0 km/h (24.9 mph)	—
Axles		
Axle Oscillation, Stop to Stop, Front Axle	22 deg.	
Axle Ratings	*Front*	*Rear*
SAE J43	6500 kg (14,330 lb.)	7500 kg (16,500 lb.)
Dynamic	9000 kg (19,800 lb.)	10 000 kg (22,000 lb.)
Static	23 500 kg (51,800 lb.)	26 500 kg (58,400 lb.)
Ultimate	37 000 kg (81,600 lb.)	39 500 kg (87,100 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	159 L/m (42 gpm)	
Loader	159 L/m (42 gpm)	
System Relief Pressure		
Backhoe	24 993 kPa (3,625 psi)	
Lift Mode	27 579 kPa (4,000 psi)	
Loader	24 993 kPa (3,625 psi)	
Controls		
Backhoe	2-lever mechanical standard; pilot controls with pattern select and auxiliary functions optional; field kits available for additional mechanical-control options	
Loader	Single-lever control with electric clutch cutoff, momentary MFWD, transmission quick-shift, and electro-hydraulic (EH) auxiliary loader control optional	

410L SPECIFICATIONS

Cylinders	410L		
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, Standard (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	120 amp with canopy and quarter cab / 150 amp with cab		
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 floodlights in lieu of standard halogen light package		
Operator Station			
Type (ISO 3471)	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)	21L-24 R4 (12)	
With MFWD	12.5/80-18 R4 (10)	21L-24 R4 (12)	
	12.5/80-18 I3 (12)	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			
Cab	31.4 L (33.2 qt.)		
Canopy	29.6 L (31.3 qt.)		
Rear Axle	18 L (19 qt.)		
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)		
Torque Converter and Transmission	15.1 L (16 qt.)		
Fuel Tank (with ground-level fueling)	140.1 L (37 gal.)		
Diesel Exhaust Fluid (DEF) Tank	16.3 L (4.3 gal.)		
Hydraulic System	126.8 L (33.5 gal.)		
Hydraulic Reservoir	45 L (11.9 gal.)		
MFWD Housing			
Axle	6.5 L (6.9 qt.)		
Planetary (each)	0.9 L (1 qt.)		
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and 340-kg (750 lb.) Counterweight	8068 kg (17,786 lb.)		
Typical with Cab, Extendable Dipperstick, and 567-kg (1,250 lb.) Counterweight	8828 kg (19,463 lb.)		
Optional Components (weight difference between base equipment and option)			
Cab	263 kg (580 lb.)		
MFWD with Tires	110 kg (242 lb.)		
Extendable Dipperstick	271 kg (597 lb.)		
Front Loader Coupler	257 kg (566 lb.)		
Backhoe Bucket Coupler	64 kg (141 lb.)		

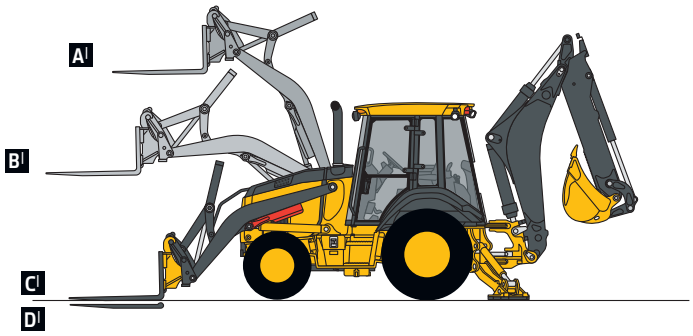
410L

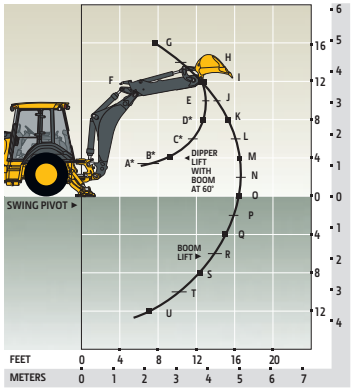
Overall Dimensions	410L
A Ground Clearance, Minimum	334 mm (13 in.)
B Overall Length, Transport	7.43 m (24 ft. 5 in.)
C Width Over Tires	2.18 m (7 ft. 2 in.)
D Height to Top of ROPS/Cab	2.87 m (9 ft. 5 in.)
E Length from Axle to Axle	
Non-Powered Front Axle	2.16 m (7 ft. 1 in.)
MFWD Axle	2.19 m (7 ft. 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.)		
Lift Mode	77.2 kN (17,350 lb.)		
Crowd Cylinder	44.1 kN (9,907 lb.)		
Lift Mode	48.6 kN (10,932 lb.)		
Swing Arc	180 deg.		
Operator Control	2 levers		
		With Optional Extendable Dipperstick	
	With Standard Backhoe	*Retracted*	*Extended*
F Loading Height, Truck Loading Position	3.98 m (13 ft. 1 in.)	4.02 m (13 ft. 2 in.)	4.73 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)	4.83 m (15 ft. 10 in.)	4.83 m (15 ft. 10 in.)	5.99 m (19 ft. 8 in.)
J Digging Depth (SAE)			
610-mm (2 ft.) Flat Bottom	4.78 m (15 ft. 8 in.)	4.78 m (15 ft. 8 in.)	5.96 m (19 ft. 7 in.)
2440-mm (8 ft.) Flat Bottom	4.47 m (14 ft. 8 in.)	4.47 m (14 ft. 8 in.)	5.73 m (18 ft. 9 in.)
K Stabilizer Width, Transport	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 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	3.93 m (12 ft. 11 in.)	3.93 m (12 ft. 11 in.)	3.93 m (12 ft. 11 in.)

Loader Dimensions and Performance	410L		
P Bucket Dump Angle, Maximum	45 deg.		
Q Rollback Angle at Ground Level	40 deg.		
	Heavy-duty	*Heavy-duty*	*Multipurpose*
Bucket Capacity	1.00 m^3 (1.31 cu. yd.)	1.15 m^3 (1.50 cu. yd.)	1.00 m^3 (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 (10,634 lb.)	46.0 kN (10,351 lb.)	43.6 kN (9,813 lb.)
Lift Capacity, Full Height	3243 kg (7,149 lb.)	3134 kg (6,909 lb.)	2761 kg (6,087 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.)
S Dump Clearance, Bucket at 45 deg.	2.68 m (8 ft. 10 in.)	2.64 m (8 ft. 8 in.)	2.65 m (8 ft. 8 in.)
T Reach at Full Height, Bucket at 45 deg.	750 mm (29.5 in.)	792 mm (31.2 in.)	792 mm (31.2 in.)
U Digging Depth Below Ground, Bucket Level	157 mm (6.2 in.)	157 mm (6.2 in.)	153 mm (6.0 in.)
V Length from Front Axle Centerline to Bucket Cutting Edge	2.04 m (6 ft. 8 in.)	2.10 m (6 ft. 11 in.)	2.09 m (6 ft. 10 in.)
Lift Capacity with Quick-Coupler Forks			
Hydraulic Capacity	*1219-mm (48 in.) Tines*	*1524-mm (60 in.) Tines*	
A[I] Maximum Height	2002 kg (4,413 lb.)	1872 kg (4,126 lb.)	
B[I] Maximum Reach	3149 kg (6,943 lb.)	2969 kg (6,545 lb.)	
C[I] At Ground Line	4007 kg (8,833 lb.)	3789 kg (8,353 lb.)	
D[I] Below Ground Line	228 mm (9 in.)	228 mm (9 in.)	





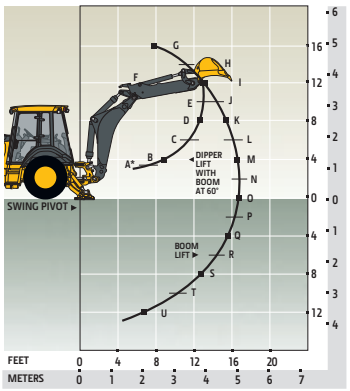
With Standard Dipperstick

Lift Capacity with Bucket

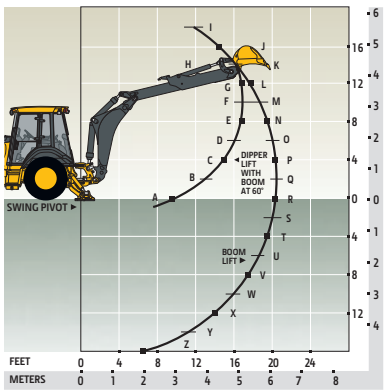
Lift capacities are over-end values in kg (lb.) according to SAE J31. Figures listed are 87% of the maximum lift force available. Calculated with 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) bucket. Bucket impacts overall lift capacity.

	With Standard Dipperstick		*With 1.21-m (4 ft. 0 in.) Extendable Dipperstick, Retracted*		*With 1.21-m (4 ft. 0 in.) Extendable Dipperstick, Extended*	
	Standard Lift	*Lift Mode*	*Standard Lift*	*Lift Mode*	*Standard Lift*	*Lift Mode*
A	6359 kg (14,020 lb.)*	6359 kg (14,020 lb.)*	6513 kg (14,359 lb.)*	6513 kg (14,359 lb.)*	4181 kg (9,217 lb.)	4554 kg (10,041 lb.)
B	4893 kg (10,788 lb.)*	4893 kg (10,788 lb.)*	4985 kg (10,990 lb.)	4985 kg (10,990 lb.)	2548 kg (5,618 lb.)	2855 kg (6,294 lb.)
C	3627 kg (7,996 lb.)*	3627 kg (7,996 lb.)*	3587 kg (7,908 lb.)	3587 kg (7,908 lb.)	2193 kg (4,836 lb.)	2461 kg (5,426 lb.)
D	3268 kg (7,204 lb.)*	3268 kg (7,204 lb.)*	3200 kg (7,055 lb.)	3200 kg (7,055 lb.)	2010 kg (4,432 lb.)	2258 kg (4,978 lb.)
E	3087 kg (6,805 lb.)	3168 kg (6,984 lb.)*	2979 kg (6,568 lb.)	3093 kg (6,820 lb.)	1879 kg (4,142 lb.)	2112 kg (4,657 lb.)
F	2717 kg (5,990 lb.)	3029 kg (6,678 lb.)	2608 kg (5,750 lb.)	2920 kg (6,438 lb.)	1755 kg (3,870 lb.)	1975 kg (4,355 lb.)
G	1341 kg (2,957 lb.)	1511 kg (3,330 lb.)	1202 kg (2,649 lb.)	1371 kg (3,023 lb.)	1608 kg (3,545 lb.)	1812 kg (3,995 lb.)
H	1718 kg (3,788 lb.)	1938 kg (4,272 lb.)	1560 kg (3,438 lb.)	1779 kg (3,923 lb.)	1397 kg (3,080 lb.)	1579 kg (3,480 lb.)
I	1813 kg (3,996 lb.)	2047 kg (4,513 lb.)	1646 kg (3,629 lb.)	1880 kg (4,146 lb.)	828 kg (1,825 lb.)	956 kg (2,109 lb.)
J	1834 kg (4,043 lb.)	2073 kg (4,571 lb.)	1662 kg (3,665 lb.)	1902 kg (4,193 lb.)	1041 kg (2,295 lb.)	1198 kg (2,642 lb.)
K	1826 kg (4,026 lb.)	2067 kg (4,557 lb.)	1651 kg (3,639 lb.)	1892 kg (4,171 lb.)	1139 kg (2,511 lb.)	1311 kg (2,889 lb.)
L	1805 kg (3,980 lb.)	2046 kg (4,511 lb.)	1627 kg (3,587 lb.)	1868 kg (4,118 lb.)	1189 kg (2,621 lb.)	1368 kg (3,017 lb.)
M	1779 kg (3,923 lb.)	2019 kg (4,452 lb.)	1598 kg (3,523 lb.)	1838 kg (4,052 lb.)	1214 kg (2,676 lb.)	1398 kg (3,083 lb.)
N	1752 kg (3,863 lb.)	1991 kg (4,389 lb.)	1568 kg (3,457 lb.)	1807 kg (3,983 lb.)	1225 kg (2,700 lb.)	1412 kg (3,114 lb.)
O	1726 kg (3,805 lb.)	1964 kg (4,329 lb.)	1539 kg (3,394 lb.)	1777 kg (3,917 lb.)	1227 kg (2,706 lb.)	1417 kg (3,124 lb.)
P	1704 kg (3,756 lb.)	1941 kg (4,278 lb.)	1514 kg (3,338 lb.)	1751 kg (3,860 lb.)	1225 kg (2,701 lb.)	1416 kg (3,123 lb.)
Q	1687 kg (3,720 lb.)	1924 kg (4,242 lb.)	1494 kg (3,294 lb.)	1731 kg (3,817 lb.)	1221 kg (2,691 lb.)	1413 kg (3,115 lb.)
R	1681 kg (3,706 lb.)	1920 kg (4,232 lb.)	1484 kg (3,271 lb.)	1723 kg (3,798 lb.)	1216 kg (2,680 lb.)	1409 kg (3,106 lb.)
S	1693 kg (3,733 lb.)	1937 kg (4,270 lb.)	1491 kg (3,287 lb.)	1734 kg (3,824 lb.)	1211 kg (2,670 lb.)	1406 kg (3,099 lb.)
T	1751 kg (3,859 lb.)	2005 kg (4,421 lb.)	1539 kg (3,393 lb.)	1794 kg (3,955 lb.)	1209 kg (2,666 lb.)	1405 kg (3,098 lb.)
U	2020 kg (4,454 lb.)	2319 kg (5,112 lb.)	1783 kg (3,930 lb.)	2081 kg (4,588 lb.)	1211 kg (2,671 lb.)	1410 kg (3,108 lb.)
V	—	—	—	—	1221 kg (2,692 lb.)	1423 kg (3,136 lb.)
W	—	—	—	—	1243 kg (2,740 lb.)	1450 kg (3,196 lb.)
X	—	—	—	—	1290 kg (2,844 lb.)	1506 kg (3,321 lb.)
Y	—	—	—	—	1404 kg (3,094 lb.)	1640 kg (3,615 lb.)
Z	—	—	—	—	1933 kg (4,261 lb.)	2253 kg (4,967 lb.)

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



With Extendable Dipperstick, Retracted



With Extendable Dipperstick, Extended

710L SPECIFICATIONS

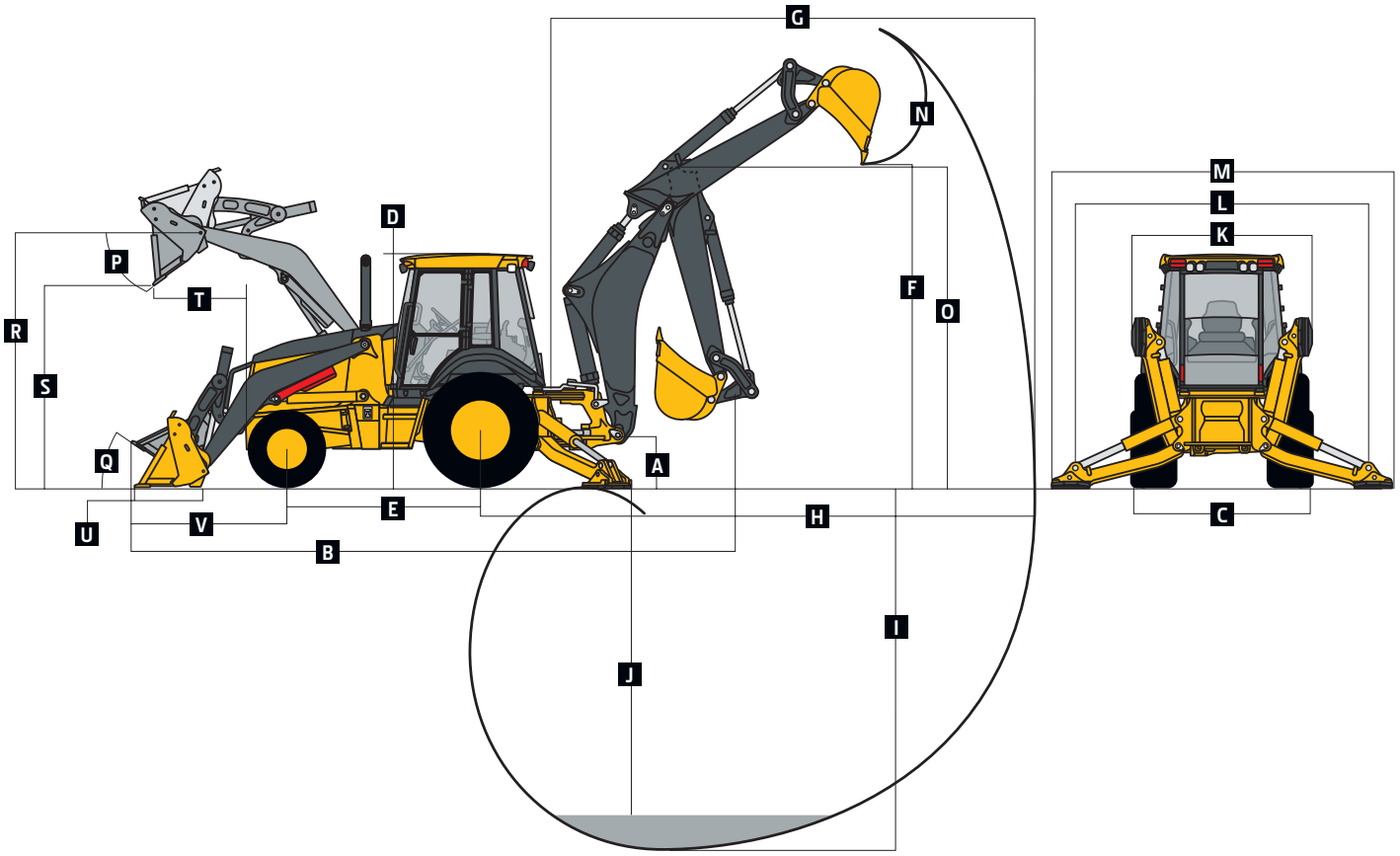
Engine	710L	
Manufacturer and Model	John Deere PowerTech™ Plus 4045HT084 series turbocharged	
Non-Road Emission Standard	EPA Final Tier 4/EU Stage IV	
Displacement	4.5 L (276 cu. in.)	
Gross Power at Rated Speed	111 kW (149 hp) at 2,200 rpm	
Net Peak Power (ISO 9249)	110 kW (148 hp) at 2,240 rpm	
Net Peak Torque (ISO 9249)	575 Nm (424 lb.-ft.) at 1,400 rpm	
Net Torque Rise	21%	
Lubrication	Pressure system with spin-on filter and cooler	
Air Cleaner	Dual-stage dry type with safety element and evacuator valve	
Cooling		
Fan Type	Electronically controlled, variable rate, suction-type cooling fan	
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; AutoShift transmission optional	
Torque Converter	Single stage, dual phase with 1.92:1 stall ratio, 280 mm (11 in.)	
Maximum Travel Speeds with Standard Engine with Mechanical-Front-Wheel Drive (MFWD), Measured with 21L-28 Rear Tires	*Forward*	*Reverse*
Gear 1	6.0 km/h (3.7 mph)	6.8 km/h (4.2 mph)
Gear 2	10.2 km/h (6.3 mph)	11.3 km/h (7.0 mph)
Gear 3	25.0 km/h (15.5 mph)	27.8 km/h (17.3 mph)
Gear 4	37.6 km/h (23.4 mph)	—
Axles		
Axle Oscillation, Stop to Stop, Front Axle	18 deg.	
Axle Ratings	*Front*	*Rear*
SAE J43	9000 kg (19,800 lb.)	11 500 kg (25,400 lb.)
Dynamic	12 500 kg (27,600 lb.)	14 000 kg (30,900 lb.)
Static	30 500 kg (67,200 lb.)	31 000 kg (68,300 lb.)
Ultimate	45 000 kg (99,200 lb.)	45 000 kg (99,200 lb.)
Differentials		
MFWD Axle	Automatic, limited-slip traction control	
Rear Axle	Foot actuated, hydraulically engaged mechanical lock	
Steering (ISO 5010)	Hydrostatic power steering and emergency steering	
Axle	*MFWD*	*Non-Powered Front*
Curb-Turning Radius		
With Brakes	4.04 m (13 ft. 3 in.)	4.07 m (13 ft. 4 in.)
Without Brakes	4.71 m (15 ft. 5 in.)	4.75 m (15 ft. 7 in.)
Bucket-Clearance Circle		
With Brakes	11.29 m (37 ft. 0 in.)	11.30 m (37 ft. 1 in.)
Without Brakes	12.32 m (40 ft. 5 in.)	12.35 m (40 ft. 6 in.)
Steering Wheel Turns (lock to lock, flow amplified)	2.7 to 4.4	2.9 to 4.7
MFWD Axle	Heavy duty, outboard planetary final drives distribute shock loads over 3 gears	
Rear Axle	Heavy duty, inboard planetary final drives distribute shock loads over 3 gears	
Brakes (ISO 3450)		
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		
Main Pump	Pressure compensated load sensing (PCLS), axial-piston pump	
Pump Flow at 2,200 rpm		
Backhoe	197 L/m (52 gpm)	
Loader	197 L/m (52 gpm)	
System Relief Pressure, Backhoe and Loader		
Backhoe	24 993 kPa (3,625 psi)	
Lift Mode	26 890 kPa (3,900 psi)	
Loader	24 993 kPa (3,625 psi)	

710L SPECIFICATIONS

Hydraulics *(continued)*	710L		
Controls			
Backhoe	Pilot controls with pattern select standard; 2-lever mechanical and auxiliary functions optional; field kits available for additional mechanical-control options		
Loader	Single-lever control with electric clutch cutoff, momentary MFWD, 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)	100 mm (3.94 in.)	56 mm (2.20 in.)	805 mm (31.69 in.)
Loader Bucket (1)	110 mm (4.33 in.)	56 mm (2.20 in.)	672 mm (26.44 in.)
Backhoe Boom (1)	160 mm (6.30 in.)	95 mm (3.74 in.)	944 mm (37.17 in.)
Backhoe Crowd (1)	140 mm (5.51 in.)	85 mm (3.35 in.)	792 mm (31.16 in.)
Backhoe Bucket (1)	110 mm (4.33 in.)	70 mm (2.76 in.)	939 mm (36.97 in.)
Backhoe Swing (2)	110 mm (4.33 in.)	56 mm (2.20 in.)	308 mm (12.13 in.)
Backhoe Extendable Dipperstick (1)	80 mm (3.15 in.)	45 mm (1.77 in.)	1372 mm (54.00 in.)
Backhoe Stabilizer, Standard (2)	115 mm (4.53 in.)	63 mm (2.48 in.)	588 mm (23.15 in.)
Non-Powered Axle (1)	75 mm (2.95 in.)	45 mm (1.77 in.)	240 mm (9.45 in.)
MFWD (1)	75 mm (2.95 in.)	50 mm (1.97 in.)	260 mm (10.24 in.)
Electrical			
Voltage	12 volt		
Alternator Rating	150 amp with cab		
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 floodlights in lieu of standard halogen light package		
Operator Station			
Type (ISO 3471)	Canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof; optional fully enclosed cab		
Tires/Wheels			
	Front	*Rear*	
Non-Powered Front Axle	12.5/80-18 F3 (16)	21L-28 R4 (18)	
	12.5/80-18 F3 (16)	20.5-25 L-3 (20)	
With MFWD	15-19.5 R4 (12)	21L-28 R4 (18)	
	15-19.5 R4 (12)	20.5-25 L-3 (20)	
Serviceability			
Refill Capacities			
Cooling System			
Cab	27 L (28.5 qt.)		
Canopy	25 L (26.4 qt.)		
Rear Axle	25 L (26.4 qt.)		
Engine Oil (including vertical spin-on filter)	13 L (13.7 qt.)		
Torque Converter and Transmission	15.1 L (16 qt.)		
Fuel Tank (with ground-level fueling)	185.5 L (49 gal.)		
Diesel Exhaust Fluid (DEF) Tank	16.3 L (4.3 gal.)		
Hydraulic System	174.1 L (46 gal.)		
Hydraulic Reservoir	50.1 L (13.2 gal.)		
MFWD Housing			
Axle	15 L (15.9 qt.)		
Planetary (each)	2.2 L (2.3 qt.)		
Operating Weights			
With Full Fuel Tank, 79-kg (175 lb.) Operator, and Standard Equipment	11 607 kg (25,588 lb.)		
Typical with Cab, MFWD, Extendable Dipperstick, and 680-kg (1,500 lb.) Counterweight	12 262 kg (27,033 lb.)		
Optional Components (weight difference between base equipment and option)			
Cab	293 kg (645 lb.)		
MFWD with Tires	373 kg (822 lb.)		
Extendable Dipperstick	318 kg (700 lb.)		
Front Loader Coupler	363 kg (800 lb.)		

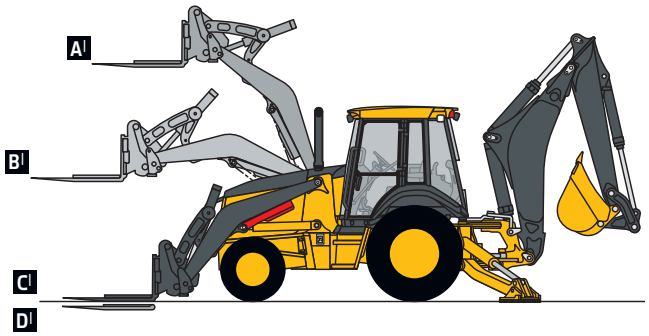
710L

Overall Dimensions		710L
A	Ground Clearance, Minimum	356 mm (14 in.)
B	Overall Length, Transport	8.23 m (27 ft. 0 in.)
C	Width Over Tires	2.29 m (7 ft. 6 in.)
D	Height to Top of ROPS/Cab	2.97 m (9 ft. 9 in.)
E	Length from Axle to Axle	
	Non-Powered Front Axle	2.58 m (8 ft. 5 in.)
	MFWD Axle	2.55 m (8 ft. 4 in.)



Backhoe Dimensions and Performance				
Backhoe specifications are with 610-mm x 0.31-m³ (24 in. x 11 cu. ft.) bucket; dipper lift specs are with a boom angle of 65 deg.				
Bucket Range		610–914 mm (24–36 in.)		
Digging Force				
	Bucket Cylinder	78.4 kN (17,622 lb.)		
	Lift Mode	84.3 kN (18,959 lb.)		
	Crowd Cylinder	53.4 kN (11,999 lb.)		
	Lift Mode	57.4 kN (12,910 lb.)		
Swing Arc		180 deg.		
Operator Control		Pilot control		
			With Optional Extendable Dipperstick	
		With Standard Backhoe	*Retracted*	*Extended*
F	Loading Height, Truck Loading Position	4.45 m (14 ft. 7 in.)	4.49 m (14 ft. 9 in.)	5.35 m (17 ft. 6 in.)
G	Reach from Center of Swing Pivot	6.84 m (22 ft. 5 in.)	6.84 m (22 ft. 5 in.)	8.15 m (26 ft. 9 in.)
H	Reach from Center of Rear Axle	8.11 m (26 ft. 7 in.)	8.11 m (26 ft. 7 in.)	9.42 m (30 ft. 11 in.)
I	Digging Depth (SAE maximum)	5.26 m (17 ft. 3 in.)	5.26 m (17 ft. 3 in.)	6.63 m (21 ft. 9 in.)
J	Digging Depth (SAE)			
	610-mm (2 ft.) Flat Bottom	5.25 m (17 ft. 3 in.)	5.25 m (17 ft. 2 in.)	6.62 m (21 ft. 8 in.)
	2440-mm (8 ft.) Flat Bottom	4.96 m (16 ft. 3 in.)	4.96 m (16 ft. 3 in.)	6.40 m (21 ft. 0 in.)
K	Stabilizer Width, Transport	2.41 m (7 ft. 11 in.)	2.41 m (7 ft. 11 in.)	2.41 m (7 ft. 11 in.)
L	Stabilizer Spread, Operating	3.99 m (13 ft. 1 in.)	3.99 m (13 ft. 1 in.)	3.99 m (13 ft. 1 in.)
M	Stabilizer Overall Width, Operating	4.65 m (15 ft. 3 in.)	4.65 m (15 ft. 3 in.)	4.65 m (15 ft. 3 in.)
N	Bucket Rotation	190 deg.	190 deg.	190 deg.
O	Transport Height	4.23 m (13 ft. 10 in.)	4.23 m (13 ft. 10 in.)	4.23 m (13 ft. 10 in.)
Loader Dimensions and Performance				
P	Bucket Dump Angle, Maximum	45 deg.		
Q	Rollback Angle at Ground Level	40 deg.		

Loader Dimensions and Performance *(continued)*	710L		
	Standard-duty	*Standard-duty*	*Multipurpose*
Bucket Capacity	1.24 m^3 (1.62 cu. yd.)	1.43 m^3 (1.87 cu. yd.)	1.00 m^3 (1.31 cu. yd.)
Width	2464 mm (97 in.)	2464 mm (97 in.)	2451 mm (96 in.)
Weight	830 kg (1,830 lb.)	866 kg (1,909 lb.)	995 kg (2,193 lb.)
Breakout Force	73.6 kN (16,539 lb.)	70.5 kN (15,853 lb.)	73.3 kN (16,474 lb.)
Lift Capacity, Full Height	4475 kg (9,866 lb.)	4239 kg (9,346 lb.)	4081 kg (8,998 lb.)
R Height to Bucket Hinge Pin, Maximum	3.73 m (12 ft. 3 in.)	3.73 m (12 ft. 3 in.)	3.73 m (12 ft. 3 in.)
S Dump Clearance, Bucket at 45 deg.	2.89 m (9 ft. 6 in.)	2.81 m (9 ft. 3 in.)	2.92 m (9 ft. 7 in.)
T Reach at Full Height, Bucket at 45 deg.	768 mm (30.2 in.)	849 mm (33.4 in.)	763 mm (30 in.)
U Digging Depth Below Ground, Bucket Level	157 mm (6.2 in.)	157 mm (6.2 in.)	141 mm (5.5 in.)
V Length from Front Axle Centerline to Bucket Cutting Edge	2.14 m (7 ft. 0 in.)	2.26 m (7 ft. 5 in.)	2.11 m (6 ft. 11 in.)
Lift Capacity with Quick-Coupler Forks			
Hydraulic Capacity	*1219-mm (48 in.) Tines*		
A[I] Maximum Height	2632 kg (5,803 lb.)		
B[I] Maximum Reach	4378 kg (9,651 lb.)		
C[I] At Ground Line	6057 kg (13,353 lb.)		
D[I] Below Ground Line	140 mm (5.5 in.)		

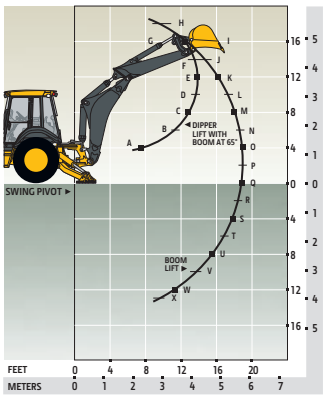


Lift Capacity with Bucket

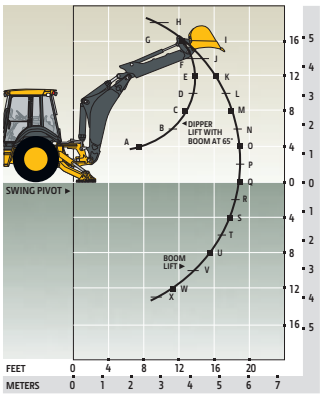
Lift capacities are over-end values in kg (lb.) according to SAE J31. Figures listed are 87% of the maximum lift force available. Calculated with 610-mm x 0.31-m^3 (24 in. x 11 cu. ft.) bucket. Bucket impacts overall lift capacity.

	With Standard Dipperstick		*With 1.37-m (4 ft. 6 in.) Extendable Dipperstick, Retracted*		*With 1.37-m (4 ft. 6 in.) Extendable Dipperstick, Extended*	
	Standard Lift	*Lift Mode*	*Standard Lift*	*Lift Mode*	*Standard Lift*	*Lift Mode*
A	7938 kg (17,501 lb.)	7938 kg (17,501 lb.)	7784 kg (17,160 lb.)	7784 kg (17,160 lb.)	4344 kg (9,577 lb.)	4733 kg (10,435 lb.)
B	4219 kg (9,302 lb.)	4480 kg (9,877 lb.)	4101 kg (9,042 lb.)	4291 kg (9,461 lb.)	2632 kg (5,803 lb.)	2883 kg (6,355 lb.)
C	3592 kg (7,919 lb.)	3318 kg (8,418 lb.)	3463 kg (7,636 lb.)	3634 kg (8,012 lb.)	2228 kg (4,912 lb.)	2446 kg (5,392 lb.)
D	3255 kg (7,177 lb.)	3545 kg (7,815 lb.)	3121 kg (6,881 lb.)	3390 kg (7,473 lb.)	2015 kg (4,442 lb.)	2215 kg (4,884 lb.)
E	2948 kg (6,500 lb.)	3212 kg (7,082 lb.)	2808 kg (6,192 lb.)	3072 kg (6,773 lb.)	1865 kg (4,112 lb.)	2053 kg (4,526 lb.)
F	2528 kg (5,573 lb.)	2758 kg (6,080 lb.)	2381 kg (5,249 lb.)	2610 kg (5,754 lb.)	1736 kg (3,827 lb.)	1913 kg (4,217 lb.)
G	1751 kg (3,860 lb.)	1919 kg (4,231 lb.)	1593 kg (3,513 lb.)	1760 kg (3,880 lb.)	1602 kg (3,532 lb.)	1768 kg (3,898 lb.)
H	1931 kg (4,257 lb.)	2120 kg (4,673 lb.)	1750 kg (3,857 lb.)	1938 kg (4,273 lb.)	1442 kg (3,179 lb.)	1595 kg (3,517 lb.)
I	1977 kg (4,360 lb.)	2180 kg (4,806 lb.)	1783 kg (3,931 lb.)	1986 kg (4,378 lb.)	1227 kg (2,704 lb.)	1363 kg (3,004 lb.)
J	1935 kg (4,266 lb.)	2139 kg (4,716 lb.)	1735 kg (3,824 lb.)	1939 kg (4,274 lb.)	904 kg (1,993 lb.)	1015 kg (2,237 lb.)
K	1872 kg (4,128 lb.)	2075 kg (4,574 lb.)	1668 kg (3,677 lb.)	1870 kg (4,123 lb.)	1156 kg (2,549 lb.)	1299 kg (2,863 lb.)
L	1804 kg (3,978 lb.)	2004 kg (4,417 lb.)	1597 kg (3,520 lb.)	1796 kg (3,960 lb.)	1197 kg (2,639 lb.)	1347 kg (2,971 lb.)
M	1736 kg (3,828 lb.)	1932 kg (4,260 lb.)	1526 kg (3,365 lb.)	1722 kg (3,797 lb.)	1198 kg (2,641 lb.)	1352 kg (2,980 lb.)
N	1670 kg (3,683 lb.)	1863 kg (4,107 lb.)	1458 kg (3,215 lb.)	1651 kg (3,640 lb.)	1182 kg (2,605 lb.)	1337 kg (2,947 lb.)
O	1608 kg (3,544 lb.)	1797 kg (3,962 lb.)	1393 kg (3,071 lb.)	1583 kg (3,489 lb.)	1157 kg (2,551 lb.)	1312 kg (2,893 lb.)
P	1548 kg (3,413 lb.)	1734 kg (3,823 lb.)	1332 kg (2,936 lb.)	1518 kg (3,347 lb.)	1128 kg (2,487 lb.)	1283 kg (2,828 lb.)
Q	1492 kg (3,289 lb.)	1675 kg (3,693 lb.)	1273 kg (2,807 lb.)	1457 kg (3,212 lb.)	1097 kg (2,419 lb.)	1251 kg (2,758 lb.)
R	1439 kg (3,172 lb.)	1620 kg (3,571 lb.)	1218 kg (2,686 lb.)	1400 kg (3,085 lb.)	1066 kg (2,350 lb.)	1219 kg (2,687 lb.)
S	1389 kg (3,063 lb.)	1568 kg (3,458 lb.)	1167 kg (2,572 lb.)	1346 kg (2,967 lb.)	1035 kg (2,281 lb.)	1186 kg (2,615 lb.)
T	1343 kg (2,962 lb.)	1521 kg (3,353 lb.)	1118 kg (2,465 lb.)	1296 kg (2,856 lb.)	1004 kg (2,213 lb.)	1155 kg (2,545 lb.)
U	1302 kg (2,869 lb.)	1478 kg (3,259 lb.)	1073 kg (2,365 lb.)	1250 kg (2,755 lb.)	974 kg (2,148 lb.)	1124 kg (2,478 lb.)
V	1265 kg (2,789 lb.)	1443 kg (3,180 lb.)	1032 kg (2,275 lb.)	1210 kg (2,667 lb.)	946 kg (2,085 lb.)	1095 kg (2,413 lb.)
W	1239 kg (2,732 lb.)	1421 kg (3,132 lb.)	998 kg (2,201 lb.)	1180 kg (2,601 lb.)	919 kg (2,026 lb.)	1067 kg (2,353 lb.)
X	1237 kg (2,727 lb.)	1424 kg (3,140 lb.)	988 kg (2,179 lb.)	1176 kg (2,592 lb.)	894 kg (1,971 lb.)	1042 kg (2,297 lb.)
Y	—	—	—	—	871 kg (1,921 lb.)	1019 kg (2,247 lb.)
Z	—	—	—	—	852 kg (1,878 lb.)	1000 kg (2,206 lb.)
a	—	—	—	—	837 kg (1,845 lb.)	987 kg (2,176 lb.)
b	—	—	—	—	830 kg (1,830 lb.)	984 kg (2,169 lb.)
c	—	—	—	—	842 kg (1,856 lb.)	1003 kg (2,211 lb.)
d	—	—	—	—	934 kg (2,060 lb.)	1120 kg (2,469 lb.)

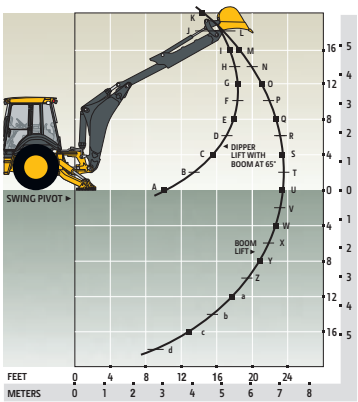
**Indicates capacity is stability limited. Lift capacities are over end with stabilizers down and tires tangent to ground.*



With Standard Dipperstick



With Extendable Dipperstick, Retracted



With Extendable Dipperstick, Extended

Additional equipment

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

310L EP	310L	310SL	310SL HL	315SL	410L	710L	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
	●	●	●	●	●	●	Electronically controlled, variable-rate suction-type cooling fan
	●	●	●	●	●	●	Self-cleaning exhaust aftertreatment system
▲	▲	▲	▲	▲	▲	▲	Chrome exhaust extension
	●	●	●	●	●		Grid heat
						●	Glow plugs
▲							Ether starting aid
▲	▲	▲	▲	▲	▲	▲	1,000-watt electric engine coolant heater
●	●	●	●	●	●	●	Electronic fuel lift pump
							Powertrain
●	●					●	PowerShift™ transmission: Torque converter with twist-grip Transmission Control Lever (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)
●	●					●	Automatic MFWD braking (4th gear only)
▲	▲	▲	▲	▲	▲		MFWD driveshaft guard
							Backhoe
			●		●	●	Lift mode
			●		●	●	Precision mode
●	●						Standard dipperstick, 4.27-m (14 ft. 0 in.) digging depth

310L EP	310L	310SL	310SL HL	315SL	410L	710L	Backhoe *(continued)*
		●					Standard dipperstick, 4.34-m (14 ft. 3 in.) digging depth
				●			Standard dipperstick, 4.17-m (13 ft. 8 in.) digging depth
					●		Standard dipperstick, 4.83-m (15 ft. 10 in.) digging depth
						●	Standard dipperstick, 5.25-m (17 ft. 3 in.) digging depth
▲	▲	▲	●	▲			Extendable dipperstick, 1.06-m (3 ft. 6 in.) extension
					▲		Extendable dipperstick, 1.21-m (4 ft. 0 in.) extension
						▲	Extendable dipperstick, 1.37-m (4 ft. 6 in.) extension
		▲	●	▲	●		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 with 1-way flow for hammers and compactors with plumbing
▲	▲	▲	▲		▲	▲	Auxiliary backhoe valve with 1- and 2-way flow for swingers, thumbs, augers, etc. (plumbing not included)
▲	▲	▲	▲		▲		Hydraulic thumb
		▲	▲		▲		Rear hydraulic coupler
		▲	▲	▲	▲		Spring-type coupler
							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
							Hydraulic System
●							119-L/m (31.5 gpm) tandem-gear pump with unloader, open-center system
	●						106-L/m (28 gpm) single-gear pump, open-center system
		●		●			136-L/m (36 gpm) tandem-gear pump, open-center system

†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 ISO 9249. No derating is required up to 1500-m (5,000 ft.) altitude for the 310L and up to 3050-m (10,000 ft.) for the 310L with optional altitude-compensating turbocharger, the 310SL, the 310SL HL, the 315SL, and the 410L. Specifications and design are subject to change without notice. Wherever applicable, specifications are in accordance with ISO standards. Except where otherwise noted, these specifications are based on 310L EP and 310L units with 19.5L-24-in. 12 PR (R4) tubeless rear and 12.5/80-18 10PR (R4) front tires, 0.86-m^3 (1.12 cu. yd.) loader buckets, and 610-mm x 0.18-m^3 (24 in. x 6.5 cu. ft.) backhoe buckets; a 310SL unit with 19.5L-24-in. 12 PR (R4) tubeless rear and 12.5-80/18 10PR (R4) front tires, 1.00-m^3 (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) backhoe bucket; a 310SL HL unit with boost mode, 21L-24 in. 12 PR (R4) tubeless rear and 12.5/80-18 10PR front tires, 1.00-m^3 (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) backhoe bucket; a 315SL unit with 19.5L-24 in. 12 PR (R4) tubeless rear and 12.5-80/18 10PR (R4) front tires, 1.00-m^3 (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) backhoe bucket; a 410L unit with boost mode, 21L-24-in. 12 PR (R4) tubeless rear and 12.5/80-18 10PR front tires, 1.15-m^3 (1.5 cu. yd.) loader bucket, and 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) backhoe bucket; and a 710L unit with 21L-28-in. 18PR (R4) tubeless rear and 15-19.5-in. 12PR (R4) front tires, 1.24-m^3 (1.62 cu. yd.) loader bucket, and 610-mm x 0.31-m^3 (24 in. X 11 cu. ft.) backhoe bucket.

Additional equipment *(continued)*

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

310L EP	310L	310SL	310SL HL	315SL	410L	710L	Hydraulic System *(continued)*
			●		●		159-L/m (42 gpm) axial-piston pump, PCLS system
						●	197-L/m (52 gpm) axial-piston pump, PCLS system
		●	●	●	●	●	Auto-idle
●	●	●	●	●	●	●	Economy mode
●	●	●	●	●	●	●	Dedicated hydraulic reservoir
							Electrical System
●	●	●	●	●	●	●	12-volt system
●							90-amp alternator (canopy and quarter cab)
●							120-amp alternator (cab)
	●	●	●		●		120-amp alternator (canopy and quarter cab)
	●	●	●	●	●	●	150-amp alternator (cab)
●	●	●	●	●	●		Single battery with 180-min. reserve capacity and 925 CCA
▲	▲	▲	▲	▲	▲	●	Dual batteries with 360-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)
▲	▲	▲	▲	▲	▲	▲	LED light package
							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 (SSM)
		●	●	●	●	●	Multi-function lever: Turn signals / Windshield wipers / Some light functionality

310L EP	310L	310SL	310SL HL	315SL	410L	710L	Operator's Station *(continued)*
●	●	●	●	●	●	●	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
●	●	●	●		●	●	**Canopy:** Mechanical-suspension deluxe vinyl swivel seat with lumbar adjustment and armrests (fully adjustable)
▲	▲	▲					**Quarter Cab:** Mechanical-suspension deluxe fabric swivel seat with lumbar adjustment and armrests (fully adjustable), front windshield, and windshield wiper (1 front)
▲	▲	▲	▲	●	▲	▲	**Cab with Dual Doors and A/C:** 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 radio (with cab only)
▲	▲	▲	▲	▲	▲	▲	Premium radio package with XM Satellite Radio™ (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 bumper cover
▲	▲	▲	▲	●	▲		Heavy-duty front bumper
▲	▲	▲	▲	▲	▲	●	Front counterweight – 204 kg (450 lb.), 272 kg (600 lb.), 340 kg (750 lb.), 454 kg (1,000 lb.), 567 kg (1,250 lb.), or 680 kg (1,500 lb.)
▲	▲	▲	▲	▲	▲		Rubber grille bumpers
●	●	●	●	●	●		Fuel tank, 140.1 L (37 gal.), ground-level fueling
						●	Fuel tank, 185.5 L (49 gal.), ground-level fueling
●	●	●	●	●	●	●	2-position easy-tilt hood
●	●	●	●	●	●	●	Extended grille frame
●	●	●	●	●	●	●	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™ Ultimate wireless communication system (available in specific countries; see your dealer for details)

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions specified per ISO 9249. No derating is required up to 1500-m (5,000 ft.) altitude for the 310L and up to 3050-m (10,000 ft.) for the 310L with optional altitude-compensating turbocharger, the 310SL, the 310SL HL, the 315SL, and the 410L. Specifications and design are subject to change without notice. Wherever applicable, specifications are in accordance with ISO standards. Except where otherwise noted, these specifications are based on 310L EP and 310L units with 19.5L-24-in. 12 PR (R4) tubeless rear and 12.5/80-18 10PR (R4) front tires, 0.86-m^3 (1.12 cu. yd.) loader buckets, and 610-mm x 0.18-m^3 (24 in. x 6.5 cu. ft.) backhoe buckets; a 310SL unit with 19.5L-24-in. 12 PR (R4) tubeless rear and 12.5-80/18 10PR (R4) front tires, 1.00-m^3 (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) backhoe bucket; a 310SL HL unit with boost mode, 21L-24 in. 12 PR (R4) tubeless rear and 12.5/80-18 10PR front tires, 1.00-m^3 (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) backhoe bucket; a 315SL unit with 19.5L-24 in. 12 PR (R4) tubeless rear and 12.5-80/18 10PR (R4) front tires, 1.00-m^3 (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) backhoe bucket; a 410L unit with boost mode, 21L-24-in. 12 PR (R4) tubeless rear and 12.5/80-18 10PR front tires, 1.15-m^3 (1.5 cu. yd.) loader bucket, and 610-mm x 0.21-m^3 (24 in. x 7.5 cu. ft.) backhoe bucket; and a 710L unit with 21L-28-in. 18PR (R4) tubeless rear and 15-19.5-in. 12PR (R4) front tires, 1.24-m^3 (1.62 cu. yd.) loader bucket, and 610-mm x 0.31-m^3 (24 in. X 11 cu. ft.) backhoe bucket.

Every day brings new challenges — demanding jobsites, long hours, and an increasing importance for uptime. Our job is to bring you the opportunities to overcome them. Our experienced engineers, specialized service techs, and global network for parts and service support work around the clock.

So the next time you need help, you know who will step up.

JOHN DEERE

SAFETY live with it. 04-24-17

JohnDeere.com

Quote Id: 17286948

Prepared For:

LANCASTER COUNTY SHOP

Prepared By: **TIM JINDRA**

Murphy Tractor & Equipment
6100 Arbor Road
Lincoln, NE 68517

Tel: 402-467-1300
Mobile Phone: 402-853-4870
Fax: 402-467-1927
Email: tjindra@murphytractor.com

Date: 30 April 2018

Offer Expires: 29 June 2018

JOHN DEERE

MURPHY TRACTOR & EQUIPMENT CO.

Quote Summary

Prepared For:

LANCASTER COUNTY SHOP
444 Cherrycreek Rd
Lincoln, NE 68528
Business: 402-441-7775

Prepared By:

TIM JINDRA
Murphy Tractor & Equipment
6100 Arbor Road
Lincoln, NE 68517
Phone: 402-467-1300
Mobile: 402-853-4870
tjindra@murphytractor.com

Quote Id:	17286948
Created On:	30 April 2018
Last Modified On:	03 May 2018
Expiration Date:	29 June 2018

Equipment Summary	Selling Price		Qty		Extended
JOHN DEERE 310SL BACKHOE LOADER	$ 102,461.00	X	1	=	$ 102,461.00
John Deere Extended Warranty-36mo/3000hr Full Machine Full Machine, 3000Total Hours or 36Total Months, $ 0.00 Deductible	$ 2,015.00	X	1	=	$ 2,015.00
Sub Total					**$ 104,476.00**
Equipment Total					**$ 104,476.00**

Trade In Summary	Qty	Each	Extended
2003 JOHN DEERE 310SG LOADER BACKHOE - TO310SG915702	1	$ 12,500.00	$ 12,500.00
PayOff			$ 0.00
Total Trade Allowance			$ 12,500.00
Trade In Total			**$ 12,500.00**

Quote Summary	
Equipment Total	$ 104,476.00
Trade In	$ (12,500.00)
SubTotal	$ 91,976.00
Total	$ 91,976.00
Balance Due	**$ 91,976.00**

Salesperson : X _____ **Accepted By : X** _____

JOHN DEERE

Selling Equipment

MURPHY TRACTOR & EQUIPMENT CO.

Quote Id: 17286948 **Customer:** LANCASTER COUNTY SHOP

JOHN DEERE 310SL BACKHOE LOADER

Hours:
Stock Number:

Code	Description	Qty
0A70T	310SL BACKHOE LOADER	1
	Standard Options - Per Unit	
170C	JDLink Ultimate Cellular - 5 Years	1
1065	John Deere PowerTech Plus 4.5L (276 Cu. In.) Engine Meets Final Tier 4 and Stage IV Emissions	1
2035	Cab	1
2401	English Decals with English Operator and Safety Manuals	1
3065	Mechanical Front Wheel Drive (MFWD) with Limited Slip Differential	1
4782	Michelin Radials-500/70R24 XMCL & 340/80R18 XMCL	1
5285	Pilot Controls, Two Lever, with Pattern Selection	1
5420	Multi-Brand Quick Coupler	1
5600	Less Backhoe Bucket with Bucket Pins	1
6020	Extendible Dipperstick	1
6230	Auxiliary Hydraulic with One & Two Way Flow (Hammer & Thumb/Swinger)	1
7025	Two-Function Loader Hydraulics, Single Lever	1
7645	1.3 Cu. Yd. (1.0 Cu. M.) 92 in. (2.34 m) Wide Heavy Duty Long Lip Bucket with Bolt on Cutting Edge and Skid Plates	1
8485	1250 Lb. (567 kg) Front Counterweight	1
8675	Dual Maintenance Free Batteries	1
9060	Front View Mirror	1
9080	Engine Coolant Heater	1
9110	Ride Control	1
9140	Heavy-Duty Backhoe Bucket Cylinder	1
9230	37 Inch Hydraulic Backhoe Thumb - 4 Tine	1
9505	Full MFWD Driveshaft Guard	1
9515	Diagnostic Oil Sampling Ports	1
9917	Radio, Bosch Basic Package	1
9919	Sun Visor	1
9920	Exterior Rear View Mirrors (2)	1

JOHN DEERE

Selling Equipment

MURPHY TRACTOR & EQUIPMENT CO.

Quote Id: 17286948 **Customer:** LANCASTER COUNTY SHOP

9965	Seat, Cloth Air-Suspension	1
	Dealer Attachments	
AT436333	BKH Pin-on Bucket 36 In. (914 mm) Heavy-Duty 12.5 Cu. Ft. (0.35 Cu. M.)	1
AT371257	MFWD Wheel Fender Kit for 18 in. tires only	1
AT313589	Beacon/Strobe Ready Wiring Kit	1
AT434236	Rubber Bumper for Grille Frame	1
AT186288	Slow Moving Vehicle Emblem	1
	Service Agreements	
	John Deere Extended Warranty - 36mo/3000hr Full Machine	

4884 OF- Life Cycle Lancaster County Engineering

Backhoe Loader 2018

Vendors Fill in Highlighted Boxes ONLY		
Description		
Line#	**County Engineering Data Use for Calculations**	
1	Projected Number of Months in Service:	180
2	Projected Number of Hours of Operation per Month	45.0
3	Projected Total Number of Hours	8,100
4	Number of Maintenance Cycles Performed Per Year	2
5	Fuel Cost-per-Gallon	$2.85
	Net Cost	
6	Bid Price (Listed on ITB Line # 1)	$ 104,476.00
7	Trade in dollar amount (if trade included)	$ 12,500.00
8	Total Net Cost (Line 6- Line 7)	$ 91,976.00
	Operating Costs	
	Fuel	
9	Estimated Fuel Use Rate (Gallons Per Hour) "Rated RPM Full Load" or Highest Consumption Rate Tested and Documented Bidder shall supply manufacturers documentation prior to award.	1.30
10	Projected Number of Hours	8,100
11	Projected Total Gallons (Line 9 x Line 10)	10530
12	Fuel Cost-per-Gallon (LP gas) (Current eia-U.S. Energy Information Administration)	$2.85
13	Total Estimated Fuel Cost (Line 11 x Line 12)	$ 30,010.50
	Estimated Maintenance Cost for Parts & Materials (Labor not included)	
14	**Total Maintenance Cost (from Maintenance Cost Worksheet)**	$ 4,133.89
15	**Total Operating Cost (Fuel + Maintenance) (Line 13 +Line 14)**	$ 34,144.39
16	**Total Life-Cycle Cost (Net Cost, Line 8 +Total Operating Cost. Line 15)**	$ 126,120.39
17	**(Total Life-Cycle Cost divided by Total Hours) (Line 16/Line 3)**	$ 15.57

STANDARD WARRANTY FOR NEW JOHN DEERE
CONSTRUCTION, UTILITY, AND FORESTRY PRODUCTS – US & Canada

- **Construction, Forestry & Commercial Worksite Products:** 12 months Full Machine Standard Warranty
- **C&E Series Pull-Type Scrapers:** 6 months Full Machine Standard Warranty
- **DC & DE Series Pull-Type Scrapers:** 12 months Full Machine Standard Warranty
- **Scraper Tractors:** 24 Months or 2000 Hours (whichever occurs first) Full Machine Standard Warranty
- **Forestry Attachments:** 12 Months or 2000 Hours (whichever occurs first) Full Machine Standard Warranty
- **Frontier Equipment:** 6 months Full Machine Standard Warranty (90 days in rental applications)

The "Standard Warranty" is part of the warranty protection package available from John Deere Construction & Forestry Company (John Deere Limited in Canada) ("John Deere") to purchasers of new John Deere products ("product"):

STANDARD Warranty is John Deere's standard new product warranty, described in this document, provided at no additional charge to the purchaser.

EXTENDED Warranty is a separate repair contract made available by John Deere for purchasers who wish to complement their Standard Warranty coverege.

Complete Extended Warranty details, including coverage options and limitations, are set forth in the Application for Extended Warranty, which is available from authorized John Deere dealers.

STRUCTURALL Warranty applies to certain structural components as listed below and as described in this document.

FACTORY-INSTALLED UNDERCARRIAGE Warranty applies to certain undercarriage components as listed below and as described in this document.

A. STANDARD WARRANTY - GENERAL PROVISIONS

John Deere will repair or replace, at its option, any parts (except those specified below) of a new John Deere product that, as delivered to the original retail purchaser(s), are defective in material or workmanship. Performance of this warranty will be free of charge for parts and labor/labour, except as otherwise stated below. Standard Warranty applies only to purchases from John Deere and authorized John Deere dealers and, except as otherwise provided in the next sentence and section L below, is extended only to the original retail purchaser of the producL Remaining Standard Warranty applicable to a used John Deere product is transferred to a subsequent purchaser of the product only if the subsequent purchaser requests a transfer from an authorized John Deere dealer before the product's Standard Warranty expires. Coverage begins on the date of delivery of the product to the original retail purchaser. For purposes of this warranty, a product that has been rented, used for demonstration purposes for 150 or more hours, or otherwise used prior to its original retail purchase has been "used" for the total duration of such use. Warranty statements required by law covering engine emissions-related parts and components are found on a separate written warranty certificate provided to the purchaser at the time of the original retail purchase.

B. WHAT IS COVERED BY STANDARD WARRANTY -

All parts of a new John Deere product (except those noted in Sections D and E below) are covered during the Standard Warranty period set out above.

C. EXCLUSIVE REMEDY -

The repair or replacement of covered parts or components that are defective, as provided in Sections A, B, D.2 and D.3 herein, shall be the purchaser's exclusive remedy for any defect in the product. However, if after repeated attempts such repair or replacement fails to correct the performance problem caused by the defect, the purchaser's sole remedy shall be a refund of the amount paid for the product (in exchange for a return of the product), excluding any transportation charges, license fees, taxes and insurance premiums, and less a reasonable allowance for use of the product prior to its return. In no event will the dealer, John Deere or any company affiliated with John Deere be liable for any incidental or consequential damages, including but not limited to loss of profits, rental of substitute equipment or other commercial loss. Correction of defects in the manner provided above shall constitute fulfillment of all liabilities of the Dealer, John Deere, or any company affiliated with John Deere to the purchaser or any other person, whether based upon contract, tort, strict liability, or otherwise. This limitation does not apply to claims for personal injury.

D. ITEMS COVERED SEPARATELY -

1. Standard Warranty does not apply to batteries, radios, tires, cameras, or to Cummins, MTU or Detroit Diesel Engines installed in John Deere products, which are covered by separate written warranties.

2. Factory-Installed Undercarriage Warranty covers all non-rubberized factory-installed undercarriage wear components for 3 years or 4,000 hours from the date of delivery to the original retail purchaser, whichever occurs first (unless terminated earlier under Section F, below). For purposes of this warranty, a product that has been rented, used for demonstration purposes for 150 or more hours, or otherwise used prior to its original retail purchase has been "used" for the total duration of such use. In addition to the items listed in section E below, Factory-Installed Undercarriage Warranty does not cover: failures due to wear, machine application, maintenance practices, or improper machine configuration; removal and installation labor/labour; transportation or hauling costs; unapproved parts; non-wear items; and rubberized undercarriage components such as rubber tracks. Warranty claims will be pro-rated based upon wear of the failed component and whether track shoe width is approved by John Deere. Factory-Installed Undercarriage Warranty does not apply to Scraper Tractors.

3. StructurALL Warranty for new John Deere Products (except Compact Excavators & Loaders, Skid-Steer Loaders, Compact Track Loaders, Scraper Tractors, Pull-Type Scrapers, and Forestry Attachments, which are not eligible for StructurALL Warranty) begins at the date of delivery to the original retail purchaser and ends (unless terminated earlier under Section F, below) after three (3) years, or 10,000 hours (whichever occurs first). For purposes of this warranty, a product that has been rented, used for demonstration purposes for 150 or more hours, or otherwise used prior to its original retail purchase has been "used" for the total duration of such use. **StructurALL Warranty applies only to the following structural components listed below as installed on the product at the time of original manufacture.** If a particular component is not listed below it is not covered by StructurALL Warranty.

   Arm; Articulation Joint (incl. pins & bushings); Bin Frame; Boom; Carbody; C-Frame*; Circle Frame; Coupler (John Deere built ONLY); Dipperstick; Draft Frame; Engine Frame; Equipment Frame; Grapple Arch and Grapple Boom; Loader Arm; Loader Frame; Mainframe; Moldboard Lift Arm; NeverGrease™ Pin Joints [Includes steering pin and bushing joints (standard equipment), roller elements (roller bearings) in bucket to boom joints and sliding elements (bushing) for boom and linkage joints (optional equipment)]; Rollover Protection Structure (ROPS); Side Frame; Swing Frame; Track Frame; Undercarriage Frame; X-Frame; Z-bar loader linkage (including bell crank and bucket driver link); Specialty booms and arms marketed as "heavy duty" by John Deere.

   Items Covered by StructurALL for Cut-to-Length Forestry Machines: Front frame (welded assembly); Rear frame (welded assembly); Crane king post with basement; Middle joint frame; Cabin swing frame; Main Boom

   StructurALL Warranty does not apply to:

   1. Any product used primarily in extreme duty or severe duty applications such as but not limited to: demolition and wrecking, chemical plant (including fertilizer plants), salt mines, steel mill, land fill and transfer stations, scrap handling, scarifying and other applications that are similarly destructive or similarly heavy duty except specialty booms and arms as stated in Section D.3 above.
   2. C-Frames on H-Series & J-Series Crawlers equipped with root rakes or used in forestry applications unless equipped with an "extreme duty" reinforcement package.
   3. Cut-to-Length Forestry Heads and Slash Bundler Units.
   4. Crawlers equipped with optional side booms.
   5. Cut-to-Length Forestry, Excavator, and Log Loader swing bearings.
   6. Motor Graders equipped with front- or rear-mounted snow wings.

E. ITEMS NOT COVERED -

John Deere is NOT responsible for the following:

1. Freight
2. Adjustments to compensate for wear, for periodic maintenance or adjustments that result from normal wear and tear.
3. Damage caused by unapproved adjustments (electronic or mechanical) to machine or machine components outside of published specifications including but not limited to engine, hydraulic components and relief valves.

4. Program updates, calibrations, and pressure adjustments.
5. Diagnostic Time
6. Additional Labor/Labour Time - Above SPG/Labor/Labour Rate
7. Additional Cleaning - Above SPG/Labor/Labour Rate
8. Rental Fees
9. Depreciation or damage caused by normal wear or application, lack of reasonable and proper maintenance, failure to follow operating instructions, misuse, negligence, collision or other accidents.
10. Premiums charged for Overtime Labor/Labour
11. Transportation to and from the dealership.
12. Travel time, mileage or service calls by the dealer.
13. Non-John Deere components or modifications, Rotobec grapples, and attachments installed aftermarket.
14. Shop supplies and maintenance items such as, but not limited to: filters, fuels, oil, hydraulic fluid, lubricants, coolants, conditioners, shop towels, cleaners and degreasers. Note: Reimbursement for refills of oils/coolants lost due to a warrantable failure is covered when a system failure occurs outside the boundaries of a normal oil change (within 25% of specified change interval as provided in the Operator's Manual).
15. Torn, cut, or worn hoses.
16. Wear items, such as, but not limited to: body liner, belts, blades, bulbs, lubricated joints (including pins and bushings), dry brakes, brake linings, dry clutch linings, saw blades, chains, skidder grapple shocks, color marking nozzles, and articulation bumpers.
17. Items such as cutting edge parts, delimbing knives, bucket teeth and rubber track are not warranted for depreciation or damage caused by normal wear, lack of proper maintenance, misuse, failure to follow operating instructions, the elements or accidenL
18. Any defect in a non-covered component, or damage to or failure of a covered component caused by a defect in a non-covered componenL
19. Secondary damage which occurs from continued operation of a product after recognition of the occurrence of a failure.
20. Parts supplied or modifications done by third party suppliers.
21. Topping off fluids when fluid levels fall in the range between low and full
22. Parts/Kits not ordered on machine and installed aftermarket. These parts will be covered by any applicable parts warranty.
23. Attachments installed aftermarket – i.e. Winch not installed at factory.
24. Custom options installed outside the factory – i.e. G.R. Manufacturing option packages.
25. Used Products (except as otherwise provided in section L below).

F. TERMINATION OF WARRANTY-

John Deere is relieved of its obligations under Standard Warranty, StructurALL Warranty, Factory-Installed Undercarriage Warranty and/or Extended Warranty if:

1. Service (other than normal maintenance and replacement of service items) is performed by someone other than an authorized John Deere dealer; or
2. The product is modified or altered in ways not approved by John Deere; or
3. Any unapproved or improperly sized attachment is installed on the product. Approval and attachment size shall be at John Deere's sole discretion. (Consult dealer prior to installing attachments or product modification).
4. The product is moved outside the US and/or Canada.

G. PARTS REPLACED UNDER WARRANTY -

Only new or remanufactured parts or components furnished or approved by John Deere, will be used if John Deere elects to repair the product. If any such part or component is defective in material or workmanship when installed in the product, John Deere will repair or replace, as it elects, such defective part or component, provided the defect is reported to an authorized John Deere dealer within 90 days of installation or before expiration of the applicable Standard Warranty, Factory-Installed Undercarriage Warranty and/or StructurALL Warranty whichever is later.

H. TELEMATICS

NOTICE: Products may be equipped with telematics hardware and software ("Telematics") that transmit data to John Deere/ Dealer. Purchaser may deactivate Telematics at www.jdlink.com

Notwithstanding Purchaser's right, title or interest in the Products, Purchaser agrees that John Deere and Dealer (their affiliates, successors and assigns), without further notice to Purchaser have the right to:

1. Access, use, collect and disclose any data generated by, collected by, or stored in, Products or any hardware or devices interfacing with Products ("Machine Data");
2. Access Machine Data directly through data reporting devices integrated within, or attached to, Products, including Telematics ("Data Reporting Systems"); and
3. Update the Data Reporting Systems software from time to time. Machine Data will only be used in accordance with John Deere's Machine Data Policy, located at www.JohnDeere.com/MachineDataPolicy.

I. OBTAINING WARRANTY SERVICE -

To obtain warranty service, the purchaser must request warranty service from a John Deere dealer authorized to sell the product to be serviced. When making such a request, the purchaser must present evidence of the product's delivery date, make the product available at the dealer's place of business, and inform the dealer in what way the purchaser believes the product to be defective. Standard Warranty, Factory-Installed Undercarriage Warranty and/or StructurALL Warranty repairs may be made in the field if the purchaser and servicing dealer so desire. However, John Deere will not be responsible for any charges (such as dealer travel time, mileage or extra labor/labour) that would not have been incurred had the product been repaired at the dealer's place of business.

J. NO IMPLIED WARRANTY, CONDITIONS OR OTHER REPRESENTATION -

Where permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations, conditions or promises, express or implied, as to the quality, performance, or freedom from defect of its products, other than those set forth in this document and **NO IMPLIED WARRANTY OF MERCHANTABILITY, CONDITIONS OR FITNESS IS MADE.**

K. NO DEALER WARRANTY -

The selling dealer makes no warranty of its own on any item covered by this warranty, and makes no warranty on other items unless the dealer delivers to the purchaser a separate written warranty certificate specifically warranting the item. **The dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.**

L. USED JOHN DEERE PRODUCTS ONLY -

John Deere will transfer remaining Standard Warranty, Factory-Installed Undercarriage Warranty and/or StructurALL Warranty to tha purchaser of a used John Deere construction and/or forestry product that has been used for less than the full warranty period provided at the product's original retail purchase. This transfer is not effective until change of ownership is registered by a John Deere dealer. **ALL THE TERMS, INLCUDING LIMITATIONS AND EXCLUSIONS, OF THE JOHN DEERE STANDARD WARRANTY, FACTORY-INSTALLED UNDERCARRIAGE WARRANTY, AND/OR STRUCTURALL WARRANTY ORIGINALLY PROVIDED FOR THE PRODUCT REMAIN IN EFFECT AND APPLICABLE.**

A. EXTENDED WARRANTY - GENERAL PROVISIONS.

During the coverage period, John Deere will repair or replace, at its option, covered components that were either factory installed components or genuine John Deere replacements installed by an authorized John Deere dealer ("Dealer"). Such repair or replacement will be free of charge for parts and labor, except as otherwise stated below.

Under each coverage option, the Extended Warranty period begins when the product's corresponding Standard Warranty ends, and continues (unless terminated under Section E below) until the expiration selected on the face of this document. The coverage period ends after the specified number of months or when the machine's hour meter reaches the specified hour limitation, whichever occurs first.

Extended Warranty is available only through Dealers for John Deere products, and may be purchased at any time before the product's Standard warranty, or Extended Warranty expires. Extended Warranty is not effective unless and until (1) a properly completed application for coverage is submitted to John Deere, (2) and the coverage charge is paid. Once Extended Warranty becomes effective, John Deere's obligations hereunder extend only to the applicant identified on the first page of this document, unless remaining coverage is transferred to a subsequent purchaser of this product in accordance with Section H below.

B. FLUID ANALYSIS REQUIREMENT AND MAINTENANCE.

Fluid Analysis: As a condition of coverage, the following Extended Warranty contracts require fluid analysis:

- Extended Warranty Contracts on excavators with 100 horsepower and above.
- All other Construction & Forestry products (including excavators under 100 horsepower) with Extended Warranty Contracts above 5000 coverage hours.

Compact Excavators, Compact Track Loaders, Skid Steers, Compact Loaders,Scraper Tractors and Pull-Type Scrapers are excluded from this requirement.

Owner is responsible for completing hydraulic/hydrostatic oil analysis at 500 hour intervals for specific models and hours of coverage. If sample frequency is not maintained, and repairs occur, Owner will be responsible for 20% of the repair cost. An oil sample using John Deere specifications must be submitted on or before the effective date of the Extended Warranty contract.

Maintenance: The Owner, at his or her own expense, must maintain the product in accordance with the product's Operator's manual and, upon request, provide adequate records verifying maintenance.

L SERIES SKIDDERS, L SERIES WHEELED FELLER BUNCHERS, M SERIES TRACKED FELLER BUNCHERS: Additional Fluid Analysis & Maintenance may be required. As a condition to receive a Powertrain Ultimate Uptime Extended Warranty and Preventative Maintenance contract, the following will be required:

- A Dealer must perform all major services, including without limitation, scheduled maintenance in accordance with the Operator's Manual for the duration of the Extended Warranty Term.
- Submit oil samples through ALS after every service interval, regardless of who performs the service (Owner or Dealer).
- Use John Deere parts and fluids for every service interval, regardless of who performs the service (Owner or Dealer).

FAILURE BY THE OWNER TO COMPLY WITH THESE REQUIREMENTS WILL VOID POWERTRAIN EXTENDED WARRANTY COVERAGE.

C. WHAT IS COVERED BY EXTENDED WARRANTY:

Not every product component is covered by Extended Warranty. Those components that are covered are listed below. If a particular component is not listed below, it is not covered by Extended Warranty.

1. Engine Only Coverage (excludes Cummins, Detroit Diesel and Hino Engines): If you purchased Engine Only Extended Warranty the following items are covered: Engine: engine and all components within, cylinder head and gasket, ECU, electronic engine-speed-control system, engine block, engine oil cooler and aftercooler, flywheel housing and gasket, front and rear engine seals, front damper, hydraulic actuator, injection nozzles, injection pump and gasket, manifolds and gaskets, oil pan and gasket, pressure/temperature sensors and sending units, pressure/temperature sensors and sending units-EGR system manifold, ring gear and flywheel, rocker arm cover and gasket, thermostats, timing gear cover, turbocharger and gaskets, water pump and gaskets.

2. Powertrain Coverage: If you purchased Powertrain Extended Warranty the engine items above are covered along with the following items: Engine: engine speed controls & linkages - excavators. Transmission/Axles/Hydrostatics: axle(s) and differentials(s), clutch housing (except dry clutch disk), driveshaft with universal joints, electronic and/or hydraulic control valves, excavator rotary manifold, Tracked Feller-Buncher rotary manifold, final drive, front wheel-drive sensors (not wiring harness), hydrostatic system components including: propel motor, hydrostatic/hydraulic pump and related control valves powering propel and/or swing function (not dig function), hydraulic-front-wheel-drive axle and wheel assembly (including drive pump and motor, electric control, solenoid control valve, and divider valve), mechanical-front-wheel-drive differential/axle assembly (with its driveshaft, universal joint and control), power take off clutch housing (scraper tractor only), pump and valve controller, reverser with control valve, splitter drive, swing motor and brake, swing gearbox and bearings, torque converter, transfer drive, transmission. Brakes: wet park brake pinion shaft, bearing, and bearing quill (motor graders only), wet service brakes, wet steering brakes and clutches. Electrical: sensors- rotary, starter (scraper tractor only). Electric-Drive Loaders: generator, electric motor, power electronics inverter (DLR), brake resistor, motor cable assembly, generator cable assembly, brake resistor cable assembly.

3. Powertrain plus Hydraulics Coverage: If you purchased Powertrain plus Hydraulics Extended Warranty, the engine and power train items above are covered along with the following hydraulic items: Transmission/Axles/Hydrostatics: accumulator and related relief valves (transmission), hydraulic differential lock valve & associated parts. Hydraulics: control & load holding valves, cylinder packing kits, hydraulic cylinders, hydraulic oil cooler, hydraulic pumps & motors & related control valves, hydraulic reservoir, locking pin cylinder, pilot controls. Brakes: brake accumulator (Articulated Dump Truck Only). Steering: crossover relief valve, priority valve, steering pump, steering valves and cylinders.

4. Full Machine Coverage: If you purchased Full Machine Extended Warranty the engine, powertrain, and powertrain plus hydraulic items above are covered along with the following non-powertrain items: (Please note: there is a $200 deductible on all hydraulic and non-powertrain repairs when Full Coverage is purchased). Engine: engine mounts and support, engine oil lines, engine speed controls & linkages, filter mount, fuel lines, fuel tank and associated parts, fuel transfer pump & gasket, oil filler tube, pulleys, radiator and hoses, water piping. Transmission/Axles/Hydrostatics: control rods, differential lock valve & associated parts, external oil lines, filler tubes (transmission), filter screens, oil cooler, shift-control linkage, sending units and sensors.

Brakes: brake accumulator (Non ADT), brake pump, brake valve, pressure reducing valve, unloading valve. Electrical: alternator, gauges, indicators, instruments, sensors, starter, starter drive, starter solenoid, switches, voltage regulator, wiper motors, wiring harnesses. Factory Installed Air Conditioning: accumulator, clutch, compressor, condenser, dryer, evaporator, expansion valve, heater hose, pulley, seals & gaskets, temperature control programmer. Other: bucket linkages, circle drive gearbox, dump body (ADT only), fan & fan drive, motor grader circle, scarifier & ripper linkages, factory installed winch (skidders only). Steering: axles, secondary steering system components, spindles & supports, steering linkage, tie rod & tie rod ends. Structures: arm, articulation joint (incl. pins & bushings), bin frame, boom, car body, C-frame, circle frame, dipperstick, draft frame, engine frame, equipment frame, forklift mast & frame, grapple arch and grapple boom, loader arm, loader frame, mainframe, moldboard lift arm, rollover protection structure (ROPS), side frame, swing frame, track frame, X-frame, Z-bar, Pneumatic Components (ADT only): airline hoses & lines & fittings, air components of brake systems, four way protection valve, unloading valve.

D. ITEMS NOT COVERED. John Deere is not responsible for the following:

1. Parts/Kits not ordered on machine and installed aftermarket are not covered by the machine's Standard Warranty or Extended Warranty. These parts will be covered by any applicable parts warranty.
2. Attachments installed aftermarket are excluded from any Extended Warranty purchased for the machine - i.e. Winch not installed at factory.
3. Factory installed forestry attachments such as felling heads, saw heads, harvesters, delimbers and all Waratah attachments do not qualify for Extended Warranty.
4. Batteries, hoses, radios, tires, Cummins or Detroit Diesel engines.
5. Premiums charged for overtime labor requested by the Owner.
6. Costs for transporting the product to and from the place where service is performed, or service calls made by the repairing Dealer.
7. Depreciation and normal wear.
8. Damage caused by any of the following: a) Misuse or abuse of the machine; b) the application the machine is working in; c) lack of proper/required maintenance; d) failure to follow operating instructions; e) lack of protection during storage; f) vandalism; g) the elements; or h) collision or other accidents.
9. Normal maintenance and replacement of maintenance and wear items such as: filters, oils, coolants and conditioners, blades and cutting edge parts, pins and bushings (except in articulation joints), hoses, lines and fittings, undercarriage, belts, dry brakes and dry clutch linings, bulbs, rubber tracks, and skidder grapple shocks.
10. Damage caused to a covered component by a non-covered component that is used on or installed in the product.
11. For warranty repairs made in the field, any charges (such as Dealer travel time, mileage, or extra labor) that would not have been incurred had the product been repaired at the Dealer's place of business.

E. TERMINATION OF EXTENDED WARRANTY.

John Deere is relieved of its obligations under Extended Warranty if:

1. Service (other than normal maintenance and replacement of service items) is performed by someone other than a Dealer; or
2. The product is altered or modified in ways not approved by John Deere; or
3. The product's hour meter has been rendered inoperative or otherwise tampered with; or
4. The product is removed from the United States or Canada; or
5. Use is made of the product within an application group other than the group designated in the application for Extended Warranty for the product.

F. LIMITATIONS OF JOHN DEERE'S LIABLITY.

The repair or replacement of covered components that are defective, as provided in Section A above, shall be the Owner's exclusive remedy for any defect in the product. However, if after repeated attempts such repair or replacement fails to correct the performance problem caused by the defect, the Owner's sole remedy shall be a refund of the amount paid for the product (in exchange for a return of the product), excluding any transportation charges, license fees, taxes, and insurance premiums, and less a reasonable allowance for use of the product prior to its return. John Deere's liability for any repair event shall not exceed the actual cash value of the product if repaired, and John Deere's cumulative liability over the coverage period shall not exceed the amount paid by the Owner for the product, excluding any transportation charges, license fees, taxes, and insurance premiums. In no event will John Deere be liable for any incidental or consequential damages (including without limitation, loss of profits, rental of substitute equipment, or other commercial loss) that may be sustained due to a defect in the product or the breach or performance of John Deere's obligation under Extended Warranty. Corrections of defects in the manner provided herein shall constitute fulfillment of **all liabilities** of John Deere to the Owner or eny other person, **whether based upon contract, tort, strict liability, or otherwise.** This limitation does not apply to claims for personal injury.

G. OBTAINING EXTENDED WARRANTY SERVICE. To obtain service covered by Extended Warranty, the Owner must request Extended Warranty service from a Dealer authorized to sell the product to be serviced. When making such a request, the Owner must present his or her Application for Extended Warranty and John Deere's written confirmation of coverage (transferees under Section H below must present John Deere's written confirmation of coverage transfer), make the product available at the Dealer's place of business, and inform the Dealer in what way the product is believed to be defective. Extended Warranty repairs can be made in the field if the purchaser and servicing Dealer so desire. However, John Deere will not be responsible for any charges (such as Dealer travel time, mileage, or extra labor plus any applicable taxes) that would not have been incurred had the product been repaired at the Dealer's place of business.

H. TRANSFER OF UNUSED COVERAGE UPON RESALE. Remaining Extended Warranty applicable to a used John Deere product is transferred to a subsequent purchaser of the product if:

1. The subsequent purchase is made before the product's Extended Warranty expires; and
2. The product is determined by John Deere to be in satisfactory condition following an inspection performed by a Dealer, in accordance with John Deere's instructions, at the subsequent purchaser's expense; and
3. John Deere's written confirmation of the transfer is received by the subsequent purchaser; and
4. Either (a) the use made of the product by the subsequent purchaser falls within the same application group designated on the product's original Application for Extended Warranty, or (b) the subsequent purchaser pays the amount specified by John Deere for conversion of the remaining coverage to a different application group.

I. NO STATUTORY OR IMPLIED WARRANTY. Where permitted by law, **JOHN DEERE PRODUCTS CARRY NO STATUTORY OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS.**

J. DEALER CANNOT VARY TERMS OF COVERAGE.

All terms of John Deere's Extended Warranty are set forth on this document. Dealers have no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of Extended Warranty in any way.

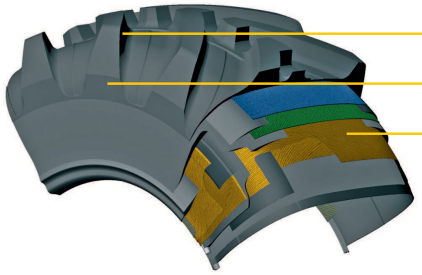
Telescopic handlers, backhoe loaders... For increased profitability

MICHELIN XMCL

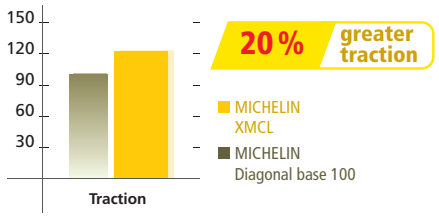
Radial construction

Sizes

11 LR16 122A8 IND TL XM 27	380/75 R20 TL 148A8/148B IND	460/70 R24 TL 159A8/159B IND
280/80 R18 TL 132A8/132B IND	400/70 R20 TL 149A8/149B IND	500/70 R24 TL 164A8/164B IND
340/80 R18 TL 143A8/143B IND	420/75 R20 TL 154A8/154B IND	540/70 R24 TL 168A8/168B IND
280/80 R20 TL 133A8/133B IND	400/70 R24 TL 152A8/152B IND NEW	480/80 R26 TL 160A8/160B IND
340/80 R20 TL 144A8/144B IND	440/80 R24 TL 161A8/161B IND	440/80 R28 TL 156A8/156B IND



20% extra traction compared with the MICHELIN cross-ply

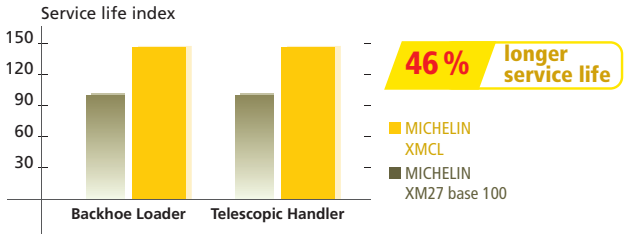


Source: MICHELIN test and research center (Ladoux)

Precision comfort on loading

- Radial construction
- Protective steel crown plies

Up to 46% longer wear life



Source: MICHELIN test and research center, Ladoux (Clermont-Ferrand) and Customer test fitments

Characteristics of Compact Line radial tyres MICHELIN XMCL

Ø inches	Description	CAI	Tyre characteristics S mm	D mm	R' mm	R.C. mm	Rim widths (1) inches	Tube (2)	75% internal volume litres		Pressure (bar) and (psi) – Load per tyre in kg														
											Bar / Psi	1.00 15	1.20 17	1.60 23	2.00 29	2.20 32	2.40 35	2.70 39	3.00 44	3.20 46	3.40 49	3.60 52	3.80 55	4.00 58	4.20 61	4.40 64
16	11 LR16 122A8 XM27	123207	291	850	375	2515	**W8** W10L	184	60		10 km/h 30 km/h 40 km/h	1 135 830 775	1 265 940 880	1 530 1 165 1 085	1 790 1 385 1 295	1 920 1 500 1 395	2 055 1 610 1 500	2 250								
18	280/80 R18 132A8/132B IND TL XMCL (10,5 R18) Equiv 10PR	779803	290	908	415	2708	**W9** W8 W10	438	67		Stat 10 km/h Cyc 25 km/h 30 km/h 35 km/h 40 km/h			1 800 1 170 1 060 1 020 990 950	2 200 1 430 1 250 1 210 1 170 1 125	2 400 1 565 1 350 1 300 1 255 1 210	2 600 1 695 1 445 1 395 1 345 1 300	2 900 1 890 1 590 1 535 1 480 1 430	3 200 2 085 1 735 1 675 1 610 1 560	3 400 2 220 1 830 1 770 1 700 1 650	3 600 2 350 1 930 1 860 1 790 1 740	3 800 2 480 2 025 1 955 1 880 1 825	4 000 2 610 2 120 2 050 1 970 1 910	4 200 2 740 2 220 2 140 2 060 2 000	4 400 2 870	4 600 3 000
	340/80 R18 143A8/143B IND TL XMCL (12,5 R18) Equiv 12PR	100054	351	996	448	2959	**11** W10 11SDC W11 12 12SDC	828	106		Stat 10 km/h Cyc 25 km/h 30 km/h 35 km/h 40 km/h			2 450 1 600 1 450 1 390 1 340 1 320	2 995 1 955 1 710 1 645 1 585 1 550	3 270 2 135 1 845 1 770 1 710 1 665	3 540 2 310 1 975 1 900 1 830 1 780	3 950 2 580 2 170 2 090 2 015 1 950	4 360 2 845 2 370 2 280 2 200 2 125	4 635 3 025 2 500 2 410 2 320 2 240	4 905 3 200 2 630 2 540 2 440 2 360	5 180 3 380 2 760 2 665 2 565 2 480	5 450 3 555 2 890 2 790 2 690 2 605	5 725 3 735 3 020 2 920 2 810 2 725	6 000 3 910	6 270 4 090
20	280/80 R20 133A8/133B IND TL XMCL (10,5 R20) Equiv 10PR	747442	292	958	439	2860	**W9** W8 W10	542	72		Stat 10 km/h Cyc 25 km/h 30 km/h 35 km/h 40 km/h			1 850 1 210 1 090 1 050 1 010 975	2 260 1 480 1 290 1 240 1 195 1 155	2 470 1 610 1 390 1 340 1 290 1 245	2 675 1 745 1 490 1 435 1 380 1 340	2 985 1 945 1 640 1 580 1 520 1 475	3 290 2 150 1 790 1 725 1 660 1 610	3 500 2 280 1 890 1 820 1 750 1 700	3 705 2 415 1 990 1 915 1 840 1 790	3 910 2 550 2 090 2 010 1 935 1 880	4 120 2 685 2 190 2 105 2 030 1 970	4 325 2 820 2 290 2 200 2 120 2 060	4 530 2 955	4 740 3 090
	340/80 R20 144A8/144B IND TL XMCL (12,5 R20) Equiv 12PR	948730	353	1047	476	3119	**11** W10 11SDC W11 12 12SDC	664	114		Stat 10 km/h Cyc 25 km/h 30 km/h 35 km/h 40 km/h			2 520 1 640 1 490 1 430 1 380 1 360	3 080 2 005 1 760 1 690 1 630 1 595	3 360 2 190 1 895 1 820 1 755 1 710	3 640 2 370 2 030 1 950 1 880 1 830	4 060 2 645 2 230 2 145 2 070 2 005	4 480 2 920 2 435 2 340 2 255 2 180	4 760 3 105 2 570 2 470 2 380 2 300	5 040 3 285 2 705 2 600 2 505 2 425	5 320 3 470 2 840 2 735 2 630 2 550	5 600 3 650 2 975 2 870 2 755 2 675	5 880 3 835 3 110 3 000 2 880 2 800	6 160 4 020	6 440 4 200
	380/75 R20 148A8/148B IND TL XMCL (14,5 R20) Equiv 16PR	187752	384	1070	481	3180	**W12** W11 11 12	664	135		Stat 10 km/h Cyc 25 km/h 30 km/h 35 km/h 40 km/h			2 840 1 850 1 670 1 610 1 550 1 500	3 470 2 260 1 975 1 900 1 830 1 770	3 785 2 465 2 130 2 050 1 975 1 905	4 100 2 670 2 280 2 195 2 115 2 040	4 570 2 980 2 510 2 415 2 325 2 240	5 045 3 285 2 740 2 635 2 540 2 440	5 360 3 490 2 890 2 780 2 680 2 575	5 675 3 695 3 040 2 930 2 820 2 720	5 990 3 900 3 195 3 075 2 960 2 860	6 305 4 110 3 350 3 220 3 100 3 005	6 620 4 315 3 500 3 370 3 240 3 150	6 935 4 520	7 250 4 730
	400/70 R20 149A8/149B IND TL XMCL (16,0/70 R20) Equiv 16PR	474495	412	1069	481	3177	**13** 12 12SDC 13SDC 14	664	139		Stat 10 km/h Cyc 25 km/h 30 km/h 35 km/h 40 km/h			2 930 1 910 1 730 1 660 1 600 1 550	3 580 2 335 2 040 1 960 1 890 1 825	3 905 2 545 2 200 2 115 2 040 1 960	4 230 2 760 2 355 2 265 2 185 2 100	4 720 3 075 2 590 2 490 2 405 2 305	5 205 3 395 2 825 2 720 2 625 2 510	5 530 3 605 2 980 2 870 2 770 2 650	5 855 3 820 3 140 3 020 2 915 2 800	6 180 4 030 3 295 3 175 3 060 2 950	6 505 4 240 3 450 3 330 3 205 3 100	6 830 4 455 3 610 3 480 3 350 3 250	7 155 4 670	7 480 4 880
	420/75 R20 154A8/154B IND TL XMCL (16,5/75 R20) Equiv 18PR	967201	428	1138	509	3378	**13** 12 12SDC 13SDC 14	829	171		Stat 10 km/h Cyc 25 km/h 30 km/h 35 km/h 40 km/h			3 380 2 200 1 990 1 920 1 850 1 800	4 130 2 690 2 350 2 270 2 185 2 120	4 505 2 935 2 535 2 440 2 350 2 280	4 880 3 180 2 715 2 615 2 520 2 440	5 440 3 550 2 985 2 875 2 770 2 675	6 005 3 915 3 260 3 135 3 020 2 915	6 380 4 160 3 440 3 310 3 190 3 075	6 755 4 405 3 620 3 485 3 360 3 245	7 130 4 650 3 800 3 660 3 525 3 410	7 505 4 895 3 980 3 835 3 690 3 580	7 880 5 140 4 160 4 010 3 860 3 750	8 255 5 385	8 630 5 630

(1) : The reference rim is shown in bold type.
(2) : KLEBER tube code.

Stat: Static load at 0 km/h, stationary vehicle.
10 Cyc: Maximum speed 10 km/h with cyclic loads.
25: use on the road up to a maximum speed of 25 km/h.
30: use under torque and on the road up to a maximum speed of 30 km/h.
35: use on the road up to a maximum speed of 35 km/h.
40: use on the road up to a maximum speed of 40 km/h.

IMPORTANT: the inflation pressure must always be appropriate for the load per tyre, the speed of travel and the work to be done.

(3) For use on hillsides: add 0.40 bar
(4) For intensive road use: add 0.40 bar

MICHELIN A better way forward

MICHELIN A better way forward

Caracteristics of Compact Line radial tyres MICHELIN XMCL

Ø inches	Description	CAI	Tyre characteristics S mm	D mm	R' mm	R.C. mm	Rim widths [1] inches	Tube [2]	75% internal volume litres	Pressure (bar) and (psi) – Load per tyre in kg	Bar / Psi	1.00 15	1.20 17	1.60 23	2.00 29	2.20 32	2.40 35	2.70 39	3.00 44	3.20 46	3.40 49	3.60 52	3.80 55	4.00 58	4.20 61	4.40 64
24	400/70 R24 152A8/152B IND TL XMCL	178690	400	1168	528	3475	**DW13L** DW12 13 DW14L 13SDC DW13		156		Stat			3 130	3 840	4 190	4 545	4 900	5 610	5 960	6 315	6 670	7 045	7 420	7 790	8 165
											10 km/h Cyc			2 040	2 500	2 735	2 965	3 195	3 655	3 890	4 120	4 350	4 595	4 840	5 080	5 325
											25 km/h			1 830	2 180	2 350	2 525	2 700	3 045	3 220	3 400	3 580	3 760	3 940		
											30 km/h			1 765	2 100	2 270	2 435	2 600	2 940	3 105	3 280	3 450	3 625	3 800		
											35 km/h			1 700	2 020	2 185	2 345	2 505	2 830	2 990	3 155	3 320	3 485	3 650		
											40 km/h			1 650	1 960	2 120	2 275	2 430	2 745	2 900	3 060	3 225	3 390	3 550		
	440/80 R24 161A8/161B IND TL XMCL (16,9 R24) Equiv 18PR	954749	441	1314	592	3907	**DW14L** DW15L TW14L DW15L	710	235		Stat			4 160	5 085	5 550	6 010	6 705	7 400	7 865	8 325	8 790	9 250	9 715	10 180	10 640
											10 km/h Cyc			2 710	3 315	3 615	3 920	4 370	4 825	5 125	5 430	5 730	6 030	6 335	6 640	6 940
											25 km/h			2 460	2 905	3 130	3 350	3 685	4 020	4 240	4 460	4 685	4 910	5 130		
											30 km/h			2 370	2 800	3 015	3 230	3 550	3 875	4 090	4 305	4 520	4 735	4 950		
											35 km/h			2 280	2 695	2 900	3 110	3 420	3 730	3 940	4 145	4 350	4 555	4 760		
											40 km/h			2 240	2 650	2 855	3 060	3 365	3 670	3 875	4 060	4 250	4 440	4 625		
	460/70 R24 159A8/159B IND TL XMCL[3] (17,5 LR24) Equiv 18PR	244268	467	1248	562	3709	**DW15L** DW14L DW16L 14 16 TW14L	710	218		Stat			3 940	4 815	5 250	5 690	6 345	7 000	7 435	7 875	8 310	8 750	9 185	9 620	10 060
											10 km/h Cyc			2 570	3 140	3 425	3 710	4 140	4 565	4 850	5 135	5 420	5 705	5 990	6 275	6 560
											25 km/h			2 320	2 740	2 955	3 165	3 480	3 800	4 010	4 220	4 435	4 650	4 860		
											30 km/h			2 240	2 650	2 850	3 055	3 360	3 665	3 870	4 070	4 275	4 480	4 680		
											35 km/h			2 160	2 550	2 745	2 940	3 230	3 525	3 720	3 920	4 115	4 310	4 510		
											40 km/h			2 120	2 500	2 695	2 885	3 170	3 460	3 650	3 830	4 010	4 195	4 375		
	500/70 R24 164A8/164B IND TL XMCL (19,5 LR24) Equiv 20PR	542794	511	1302	583	3866	**DW16L** DW15L 16	710	265		Stat			4 500	5 500	6 000	6 500	7 250	8 000	8 500	9 000	9 500	10 000	10 500	11 000	11 500
											10 km/h Cyc			2 930	3 585	3 910	4 240	4 730	5 220	5 545	5 875	6 200	6 525	6 850	7 175	7 500
											25 km/h			2 650	3 130	3 375	3 615	3 975	4 340	4 580	4 820	5 065	5 310	5 550		
											30 km/h			2 560	3 025	3 260	3 490	3 840	4 190	4 420	4 650	4 885	5 120	5 350		
											35 km/h			2 460	2 910	3 130	3 355	3 690	4 025	4 250	4 475	4 700	4 925	5 150		
											40 km/h			2 360	2 800	3 020	3 240	3 575	3 905	4 125	4 345	4 560	4 780	5 000		
	540/70 R24 168A8/168B IND TL XMCL (21 LR24) Equiv 20PR	959128	562	1356	608	4026	**DW18L** DW16L	710	265		Stat			5 015	5 910	6 360	6 805	7 475	8 150	8 595	9 040	9 490	10 335	11 185	12 030	12 880
											10 km/h Cyc			3 270	3 855	4 145	4 440	4 875	5 315	5 605	5 900	6 190	6 740	7 295	7 850	8 400
											25 km/h			2 940	3 490	3 765	4 040	4 450	4 860	5 135	5 405	5 680	5 950	6 220		
											30 km/h			2 840	3 370	3 630	3 895	4 290	4 685	4 950	5 210	5 475	5 740	6 000		
											35 km/h			2 730	3 240	3 495	3 750	4 130	4 510	4 765	5 015	5 270	5 520	5 770		
											40 km/h			2 650	3 145	3 390	3 640	4 010	4 380	4 625	4 870	5 110	5 355	5 600		
26	480/80 R26 160A8/160B IND TL XMCL (18,4 R26) Equiv 14PR	719306	487	1422	636	4220	**DW15L** DW16L	716	303		Stat			4 900	5 990	6 535	7 080	7 900	8 715	9 260	9 805	10 350				
											10 km/h Cyc			3 200	3 910	4 265	4 620	5 150	5 685	6 040	6 395	6 750				
											25 km/h			2 890	3 420	3 680	3 945	4 340	4 735	5 000						
											30 km/h			2 790	3 300	3 550	3 805	4 185	4 565	4 820						
											35 km/h			2 680	3 170	3 415	3 660	4 030	4 395	4 640						
											40 km/h			2 575	3 055	3 295	3 540	3 900	4 260	4 500						
28	440/80 R28 156A8/156B IND TL XMCL (16,9 R28) Equiv 14PR	316223	459	1410	641	4200	**DW14L** DW15L	822	260		Stat			4 360	5 330	5 810	6 295	7 020	7 750	8 230	8 715	9 200				
											10 km/h Cyc			2 840	3 470	3 790	4 105	4 580	5 050	5 370	5 685	6 000				
											25 km/h			2 570	3 040	3 270	3 505	3 855	4 205	4 440						
											30 km/h			2 480	2 930	3 155	3 380	3 720	4 055	4 280						
											35 km/h			2 390	2 820	3 040	3 255	3 580	3 905	4 120						
											40 km/h			2 300	2 725	2 940	3 150	3 470	3 790	4 000						

[1] The reference rim is shown in bold type.
[2] KLEBER tube code.
[3] For further information on rims, refer to the "Rims and valves" section on page 128.

Stat: Static load at 0 km/h, stationary vehicle.
10 Cyc: Maximum speed 10 km/h with cyclic loads.
25: use on the road up to a maximum speed of 25 km/h.
30: use under torque and on the road up to a maximum speed of 30 km/h.
35: use on the road up to a maximum speed of 35 km/h.
40: use on the road up to a maximum speed of 40 km/h.

IMPORTANT: the inflation pressure must always be appropriate for the load per tyre, the speed of travel and the work to be done.

(3) For use on hillsides: add 0.40 bar
(4) For intensive road use: add 0.40 bar

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