

310 G

Backhoe Loader



JOHN DEERE



310 G-TIER BACKHOE LOADER



RUN ONE TO GET IT DONE

Why run two machines when one will do? Whether you're loading trucks, busting up blacktop, placing pipe, digging trenches, or moving materials, the John Deere 310 G-Tier Backhoe Loader is more than up to your toughest tasks. It's designed with real-world customer input to provide the outstanding loader performance, backhoe trenching capability, and multifunction versatility you need with none of the extras you don't. This machine can help you get more done, move on to the next job, and look ahead to the big things in store for your operation



FEATURES

Do the math

An efficient alternative to similar backhoe loaders in its class, the 310 G-Tier fits your budget and is rental friendly. It's configured with a basic canopy or cab including halogen lights and a standard four-speed synchromesh manual transmission to maximize machine value.

Dependable engine technology

You can trust the reliability, performance, and fuel efficiency of the proven Yanmar 3.3L engine. This EPA Interim Tier 4 (IT4)-equivalent diesel complies with Final Tier 4 (FT4) emissions regulations without the need for aftertreatment components, minimizing machine complexity and the number of parts needed to maintain your fleet.

Open-center hydraulics

Field-proven open-center control valve and pump combination delivers high contamination resistance, exceptional swing control and multifunction performance, steady pressure/force control, and reliable operator "feel."

Control at your fingertips

Transmission gear-selection lever is within easy reach and includes a convenient clutch disconnect on the grip. Simple, easy-to-use forward/neutral/reverse (F-N-R) lever is mounted on the left-hand steering column for directional changes.

Balance of power

Variable-displacement hydraulic pump delivers flow throughout the entire speed range, even at lower engine loads. Power-management system modulates flow to balance the split between the hydraulics and the transmission to optimize performance with available engine power.



RELIABLE

+



SIMPLE TO
SERVICE

FIND YOUR FIT



LEADING EDGE

Premium edge with innovative technology



EXCEPTIONAL PERFORMANCE

Advanced features and performance



RUGGED AND RELIABLE

Proven capabilities and value

On the front lines

Front-axle design is field proven and ruggedly simple. Mechanical-front-wheel drive (MFWD) includes axle breathers that automatically regulate air pressure within the sealed, oil-bath structure.

Comfortable where it counts

Operator station is wider and features an updated HVAC system that outputs 10-percent more airflow compared to the previous model. Rear and side windows have been restyled for clear visibility. Enjoy the standard adjustable mechanical seat, or opt for an air-suspension version. New 25-button sealed-switch module on the vertical cab post and eye-level fuel and temperature gauges ease operator awareness and navigation.

Take control

"Palm-on-top" loader-control grip is intuitive and easy to use.

Enjoy the ride

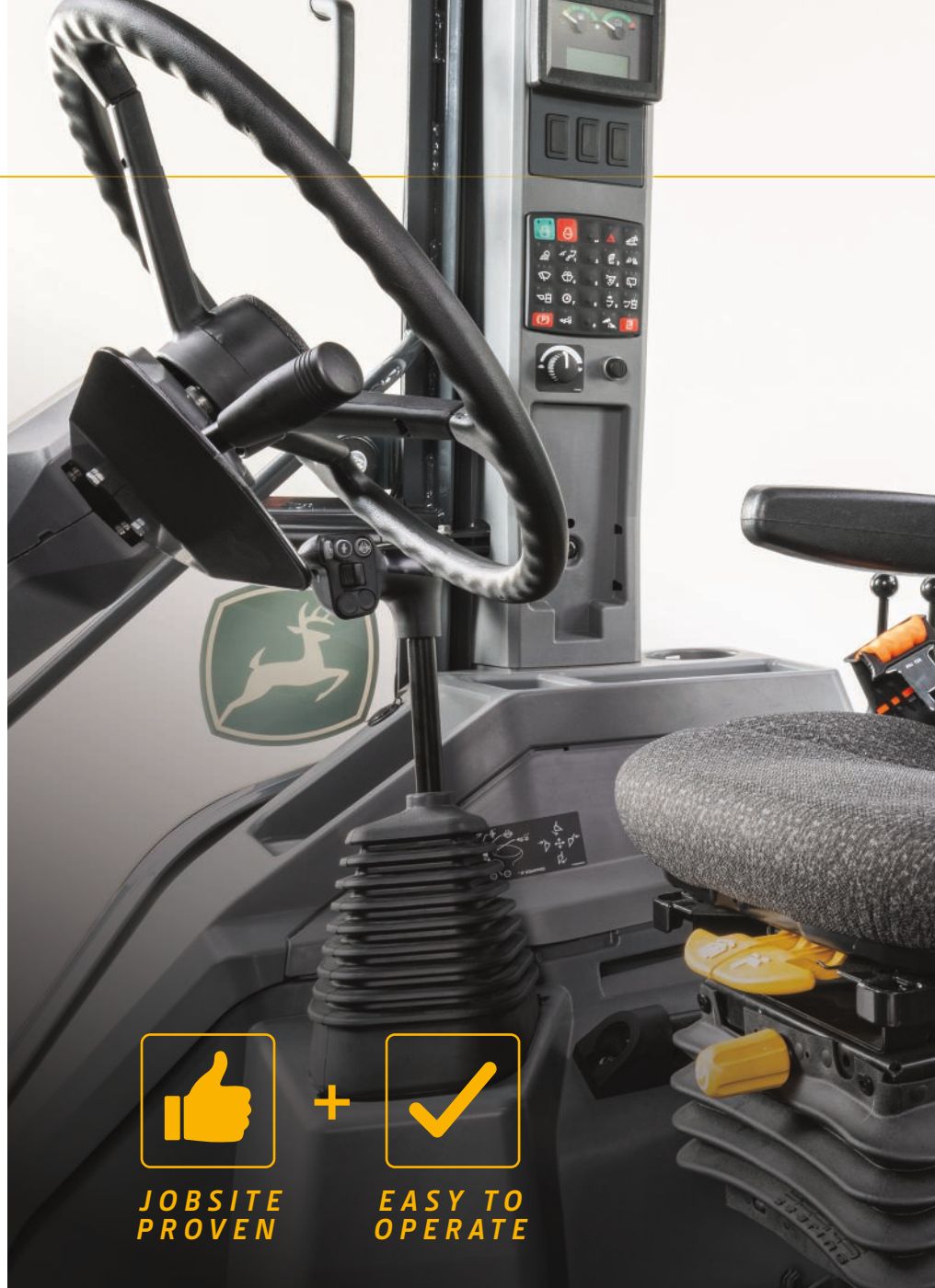
Optional ride control reduces tire flexing over rough terrain with a loaded bucket, reducing material spillage and improving machine ride to boost operator comfort and efficiency.

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.

On the level

Daily maintenance checks and fuel refills are conveniently accessed on the right side of the machine at ground level. Optional fluid-sample ports also help speed routine service.



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Connected machines

John Deere construction equipment comes with in-base connectivity — free from subscriptions or annual renewals. Analyze critical machine data, track utilization, review diagnostic alerts, and more from **the John Deere Operations Center™**. The Operations Center also enables John Deere Connected Support™, which uses data from thousands of connected machines to proactively address issues before they arise. With your approval, your dealer can also remotely monitor machine health, diagnose problems, and even update machine software without a trip to the jobsite.*

*Availability varies by region and product. Options not available in every country.



310 G-TIER BACKHOE LOADER SPECIFICATIONS

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

Engine		310 G-TIER	
Manufacturer and Model	Yanmar 4TNV98CT turbocharged		
Non-Road Emission Standard	EPA Interim Tier 4 (IT4) equivalent, EPA Final Tier 4 (FT4) compliant		
Displacement	3.3 L (203 cu. in.)		
Gross Peak Power	53 kW (71 hp) at 2,330 rpm		
Net Peak Power (ISO 9249)	51 kW (68 hp) at 2,300 rpm		
Net Peak Torque (ISO 9249)	271 Nm (200 lb.-ft.) at 1,600 rpm		
Net Torque Rise	28%		
Lubrication	Pressure system with spin-on filter and cooler		
Air Cleaner	Dual-stage dry type with safety element and evacuator valve		
Cooling			
Fan Type	Viscous variable-rate (temperature-controlled) cooling fan standard		
Engine Coolant Rating	-40 deg. C (-40 deg. F)		
Engine Oil Cooler	Oil to water		
Powertrain			
Transmission	4-speed manual-range gear-selection transmission with synchronizers and hydraulic reverser; electric clutch cutoff on loader lever and manual-range gear-selection lever		
Torque Converter	Single stage, dual phase with 3.02:1 stall ratio, 300 mm (11.8 in.)		
Synchro-Shuttle Standard Transmission			
Maximum Travel Speeds With Standard Engine and 19.5L-24 Rear Tires			
	<i>Forward</i>	<i>Reverse</i>	
Gear 1	5.7 km/h (3.5 mph)	5.7 km/h (3.5 mph)	
Gear 2	9.3 km/h (5.8 mph)	9.3 km/h (5.8 mph)	
Gear 3	20.4 km/h (12.7 mph)	20.4 km/h (12.7 mph)	
Gear 4	37.9 km/h (23.5 mph)	37.8 km/h (23.5 mph)	
Axles			
Axle Oscillation, Stop to Stop, Front Axle	22 deg.		
Axle Ratings	<i>Front</i>	<i>Rear</i>	
SAE J43	5000 kg (11,000 lb.)	6000 kg (13,200 lb.)	
Dynamic	7500 kg (16,500 lb.)	8000 kg (17,600 lb.)	
Static	24 000 kg (52,900 lb.)	24 000 kg (52,900 lb.)	
Ultimate	39 500 kg (87,100 lb.)	39 500 kg (87,100 lb.)	
Differentials			
Mechanical-Front-Wheel-Drive (MFWD) Axle	Open		
Rear Axle	Loader-grip actuated, hydraulically engaged, 100% mechanical lock		
Steering (ISO 5010)			
Axle	MFWD		
Curb-Turning Radius			
With Brakes	3.38 m (11 ft. 1 in.)		
Without Brakes	3.79 m (12 ft. 5 in.)		
Bucket-Clearance Circle			
With Brakes	9.91 m (32 ft. 6 in.)		
Without Brakes	10.49 m (34 ft. 5 in.)		
Steering Wheel Turns (lock to lock)	2.9		
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 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		

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Hydraulics		310 G-TIER	
Main Pump	Open-center system; axial-piston pump		
Pump Flow at 2,200 rpm			
Backhoe	124 L/m (32.8 gpm)		
Loader	114 L/m (30.1 gpm)		
System Relief Pressure			
Backhoe	24 993 kPa (3,625 psi)		
Loader	22 063 kPa (3,200 psi)		
Controls			
Backhoe	2-lever mechanical standard; pilot control with pattern select and manual and/or electrohydraulic (EH) auxiliary functions optional		
Loader	Single-lever control with horn, rear differential lock, electric clutch cutoff switch, and MFWD (momentary) standard; single-lever control with horn, rear differential lock, electric clutch cutoff switch, MFWD (momentary), and EH proportional auxiliary roller optional		
Cylinders			
Heat-treated, chrome-plated, polished rods; hardened steel (replaceable bushings) pivot pins			
	<i>Bore</i>	<i>Rod Diameter</i>	<i>Stroke</i>
Loader Boom (2)	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)			
Standard	80 mm (3.15 in.)	50 mm (1.97 in.)	500 mm (19.69 in.)
Extended Optional	100 mm (3.94 in.)	50 mm (1.97 in.)	500 mm (19.69 in.)
MFWD (1)	63 mm (2.48 in.)	38 mm (1.50 in.)	237 mm (9.33 in.)
Electrical			
Voltage	12 volt		
Alternator Rating (canopy and cab)	130 amp		
Lights	4 halogen: 2 front and 2 rear; turn signals and flashers: 2 front and 2 rear; stop- and taillights and 2 rear reflectors; factory-installed option for 2 LED spotlights and 2 LED floodlights in lieu of standard halogen light package		
Operator Station			
Type (ISO 3471)	Canopy, isolation mounted, ROPS/FOPS, left/right access, with sheet-metal roof; optional fully enclosed cab		
Tires/Wheels			
	<i>Front</i>	<i>Rear</i>	
With MFWD	12-16.5 NHS (12)	19.5L-24 R4 (12)	
Serviceability			
Refill Capacities			
Cooling System			
Cab	19.5 L (20.6 qt.)		
Canopy	17.9 L (18.9 qt.)		
Rear Axle			
Differential Housing	14.5 L (15.3 qt.)		
Planetary (each)	1.5 L (1.6 qt.)		
Engine Oil (including vertical spin-on filter)			
Torque Converter and Transmission	18.0 L (19.0 qt.)		
Fuel Tank (with ground-level fueling)	128.7 L (34.0 gal.)		
Hydraulic System	109.8 L (29.0 gal.)		
Hydraulic Reservoir	42.7 L (11.3 gal.)		
MFWD Axle			
Differential Housing	7.5 L (7.9 qt.)		
Planetary (each)	0.8 L (0.8 qt.)		

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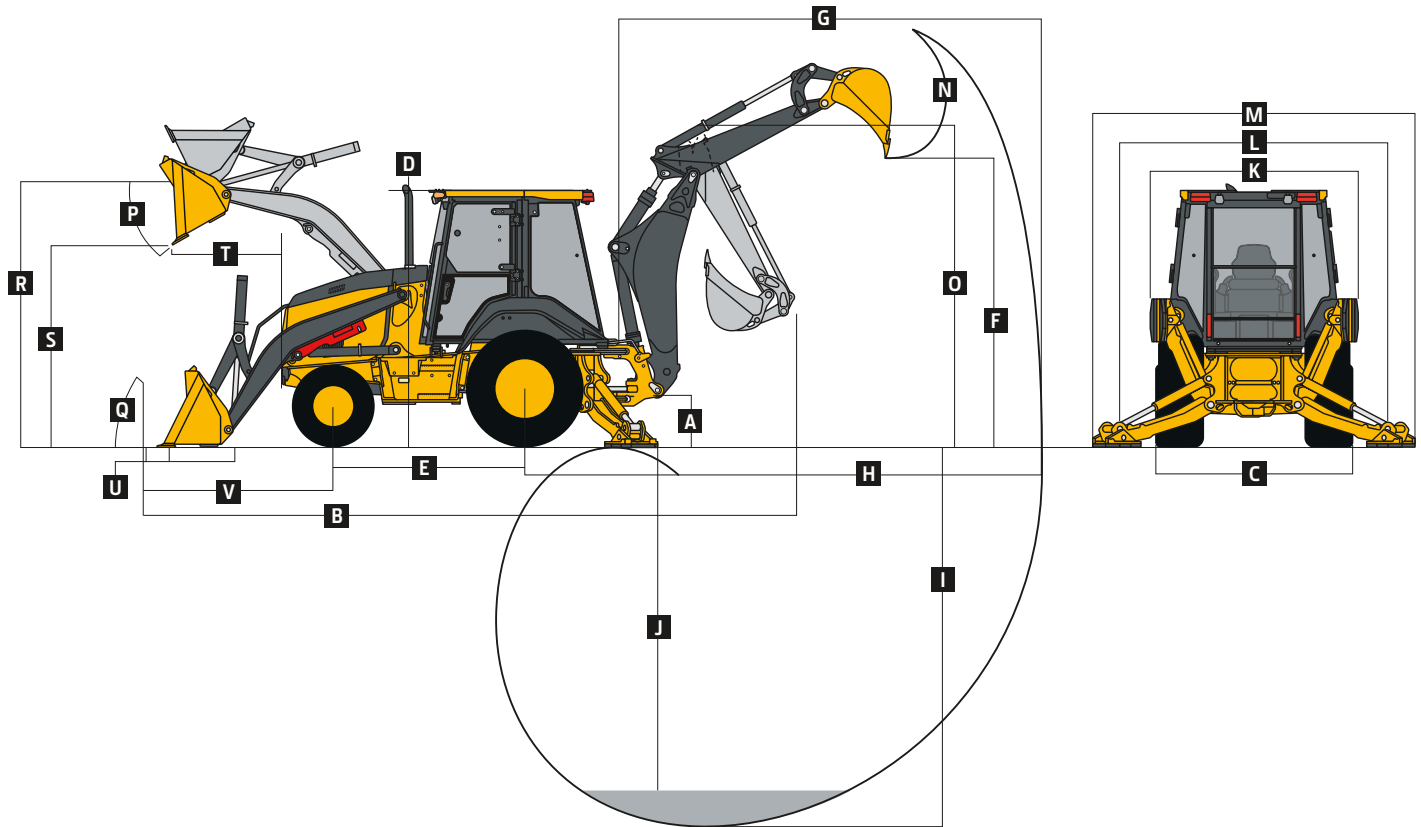
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Operating Weights 310 G-TIER

ISO 6016 Operating Mass	6850 kg (15,102 lb.)
ISO 6016 Gross Machinery Mass	8275 kg (18,243 lb.)
With Full Fuel Tank, 75-kg (165 lb.) Operator, Standard Equipment, Canopy, and 340-kg (750 lb.) Counterweight	6521 kg (14,376 lb.)
Typical With Cab, Extendable Dipperstick, and 454-kg (1,000 lb.) Counterweight	7180 kg (15,829 lb.)
Optional Components (weight difference between base equipment and option)	
Cab	352 kg (776 lb.)
Extendable Dipperstick	193 kg (425 lb.)
Front Loader Coupler	316 kg (697 lb.)
Backhoe Bucket Coupler	75 kg (165 lb.)

Overall Dimensions *[see line art below]*

A	Ground Clearance, Minimum	244 mm (10 in.)
B	Overall Length, Transport	7.45 m (24 ft. 5 in.)
C	Width Over Tires	2.20 m (7 ft. 3 in.)
D	Height to Top of ROPS/Cab	2.81 m (9 ft. 3 in.)
E	Length From Axle to Axle, MFWD Axle	2.15 m (7 ft. 1 in.)



Backhoe Dimensions and Performance

[see line art below left]

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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	305–610 mm (12–24 in.)		
Digging Force			
Bucket Cylinder	48.5 kN (10,896 lb.)		
Crowd Cylinder	31.1 kN (7,002 lb.)		
Swing Arc	180 deg.		
Operator Control	2 levers		
	<i>With Optional Extendable Dipperstick</i>		
	<i>With Standard Backhoe</i>	<i>Retracted</i>	<i>Extended</i>
F Loading Height, Truck Loading Position	3.47 m (11 ft. 5 in.)	3.56 m (11 ft. 8 in.)	4.22 m (13 ft. 10 in.)
G Reach From Center of Swing Pivot	5.42 m (17 ft. 9 in.)	5.48 m (18 ft. 0 in.)	6.50 m (21 ft. 4 in.)
H Reach From Center of Rear Axle	6.48 m (21 ft. 3 in.)	6.55 m (21 ft. 6 in.)	7.57 m (24 ft. 10 in.)
I Digging Depth (SAE maximum)	4.17 m (13 ft. 8 in.)	4.24 m (13 ft. 11 in.)	5.30 m (17 ft. 5 in.)
J Digging Depth (SAE)			
610-mm (2 ft.) Flat Bottom	4.14 m (13 ft. 7 in.)	4.21 m (13 ft. 10 in.)	5.27 m (17 ft. 4 in.)
2440-mm (8 ft.) Flat Bottom	3.80 m (12 ft. 6 in.)	3.88 m (12 ft. 9 in.)	5.02 m (16 ft. 6 in.)
K Stabilizer Width, Transport, With Standard Pads, No Guards, and No Sensors			
Standard Stabilizers	2.19 m (7 ft. 2 in.)	2.19 m (7 ft. 2 in.)	2.19 m (7 ft. 2 in.)
Extended Stabilizers	2.42 m (7 ft. 11 in.)	2.42 m (7 ft. 11 in.)	2.42 m (7 ft. 11 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.)
Extended 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.)
Extended Stabilizers	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	3.48 m (11 ft. 5 in.)	3.48 m (11 ft. 5 in.)	3.48 m (11 ft. 5 in.)

Loader Dimensions and Performance *[see line art at left]*

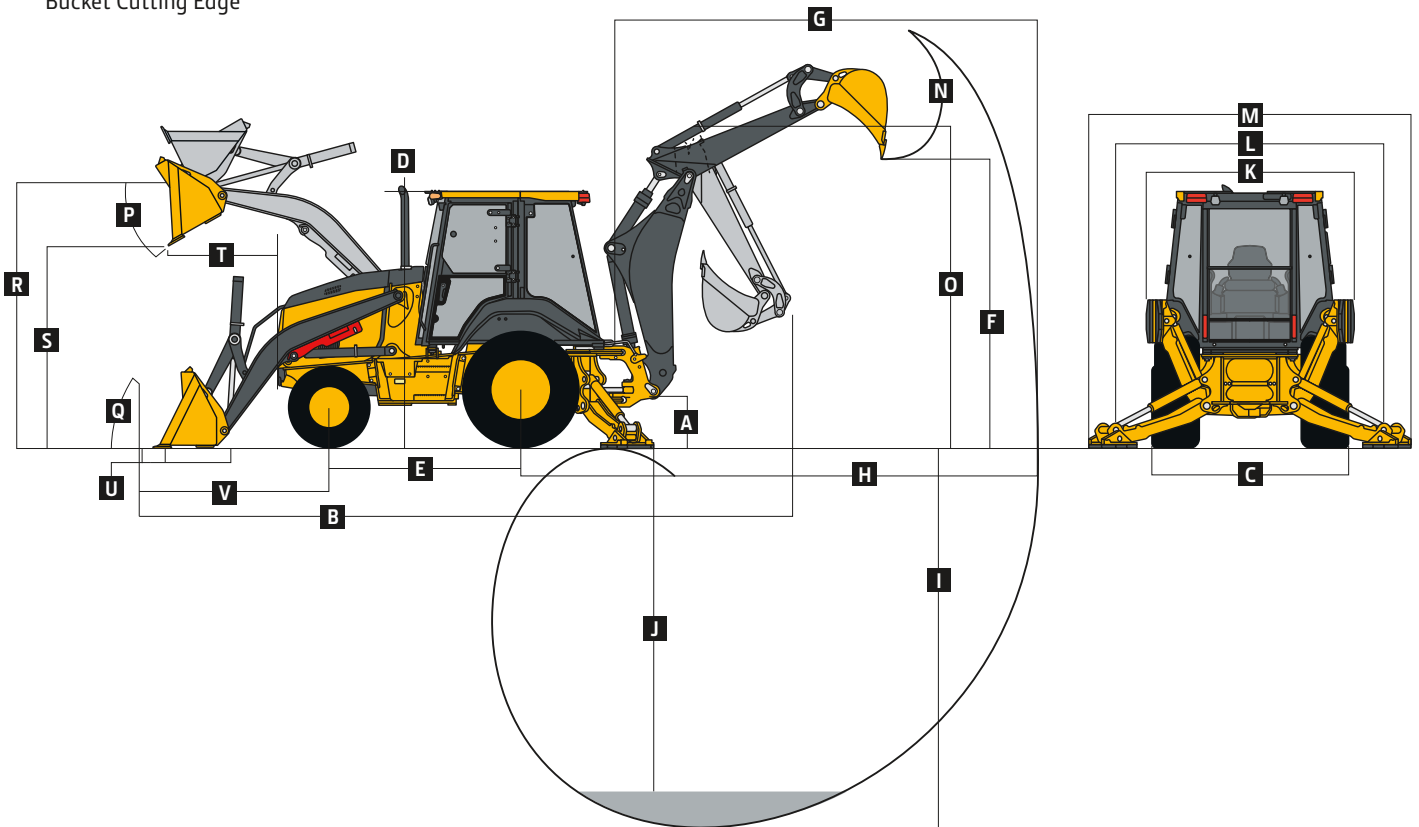
P Bucket Dump Angle, Maximum	45 deg.
Q Rollback Angle at Ground Level	40 deg.

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Loader Dimensions and Performance (continued) [see line art below]

	310 G-TIER			
	General-purpose	General-purpose	General-purpose	Multipurpose
Bucket Capacity	0.86 m ³ (1.13 cu. yd.)	0.86 m ³ (1.13 cu. yd.)	1.00 m ³ (1.31 cu. yd.)	0.93 m ³ (1.22 cu. yd.)
Width	2184 mm (86 in.)	2184 mm (86 in.)	2184 mm (86 in.)	2184 mm (86 in.)
Weight	374 kg (826 lb.)	416 kg (918 lb.)	405 kg (893 lb.)	882 kg (1,946 lb.)
Breakout Force	41.8 kN (9,389 lb.)	42.2 kN (9,489 lb.)	39.4 kN (8,853 lb.)	36.6 kN (8,237 lb.)
Lift Capacity, Full Height	2812 kg (6,199 lb.)	2862 kg (6,309 lb.)	2627 kg (5,792 lb.)	2412 kg (5,317 lb.)
R Height to Bucket Hinge Pin, Maximum	3.40 m (11 ft. 2 in.)	3.40 m (11 ft. 2 in.)	3.40 m (11 ft. 2 in.)	3.40 m (11 ft. 2 in.)
S Dump Clearance, Bucket at 45 deg.	2.66 m (8 ft. 9 in.)	2.70 m (8 ft. 10 in.)	2.56 m (8 ft. 5 in.)	2.60 m (8 ft. 6 in.)
T Reach at Full Height, Bucket at 45 deg.	846 mm (33.3 in.)	811 mm (31.9 in.)	952 mm (37.5 in.)	850 mm (33.5 in.)
U Digging Depth Below Ground, Bucket Level	157 mm (6.2 in.)	157 mm (6.2 in.)	157 mm (6.2 in.)	197 mm (7.8 in.)
V Length From Front Axle Centerline to Bucket Cutting Edge	2.09 m (6 ft. 10 in.)	2.04 m (6 ft. 8 in.)	2.24 m (7 ft. 4 in.)	2.16 m (7 ft. 1 in.)



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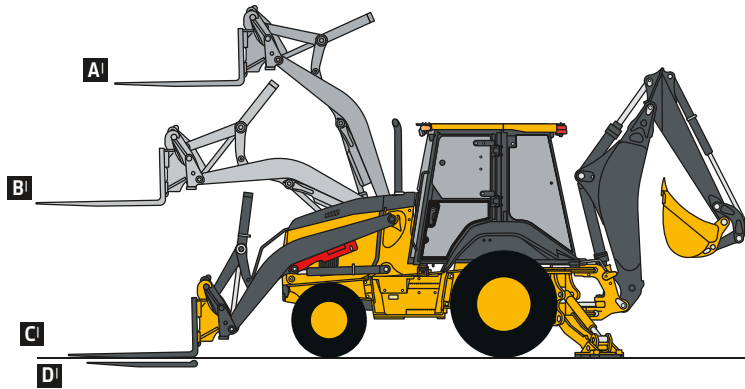
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Lift Capacity With Quick-Coupler Forks

[see line art below center]

310 G-TIER

Hydraulic Capacity	1219-mm (48 in.) Tines	1524-mm (60 in.) Tines
A ¹ Maximum Height	1700 kg (3,748 lb.)	1569 kg (3,460 lb.)
B ¹ Maximum Reach	2671 kg (5,888 lb.)	2519 kg (5,554 lb.)
C ¹ At Ground Line	3492 kg (7,699 lb.)	3290 kg (7,254 lb.)
D ¹ Below Ground Line	224 mm (8.8 in.)	224 mm (8.8 in.)

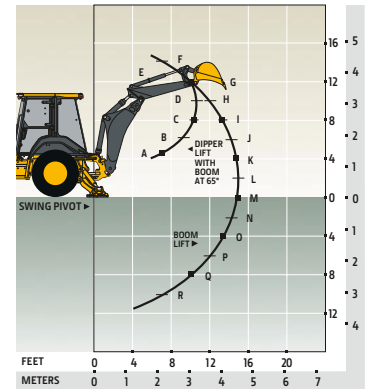


Lift Capacities [see line art at right]

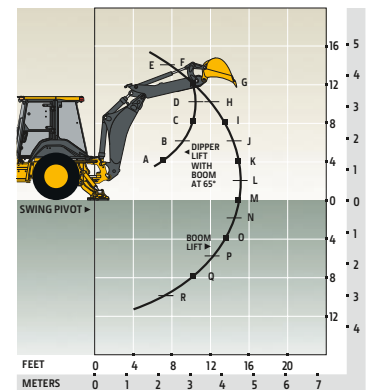
Lift capacities are over-end values in kg (lb.). Figures listed are 100% of the maximum lift force available.

	With 1.06-m (3 ft. 6 in.)	With 1.06-m (3 ft. 6 in.)
	Extendable Dipperstick, Retracted	Extendable Dipperstick, Extended
With Standard Dipperstick		
A	3645 kg (8,036 lb.)	2822 kg (6,222 lb.)
B	2683 kg (5,915 lb.)	2215 kg (4,883 lb.)
C	2351 kg (5,182 lb.)	1771 kg (3,905 lb.)
D	2301 kg (5,073 lb.)	1592 kg (3,509 lb.)
E	2141 kg (4,720 lb.)	1515 kg (3,339 lb.)
F	1660 kg (3,660 lb.)	1472 kg (3,246 lb.)
G	1651 kg (3,639 lb.)	1319 kg (2,907 lb.)
H	1594 kg (3,513 lb.)	1073 kg (2,365 lb.)
I	1531 kg (3,374 lb.)	840 kg (1,852 lb.)
J	1469 kg (3,240 lb.)	1043 kg (2,300 lb.)
K	1412 kg (3,114 lb.)	1074 kg (2,369 lb.)
L	1360 kg (2,997 lb.)	1069 kg (2,357 lb.)
M	1311 kg (2,891 lb.)	1051 kg (2,317 lb.)
N	1267 kg (2,794 lb.)	1028 kg (2,266 lb.)
O	1228 kg (2,707 lb.)	1002 kg (2,210 lb.)
P	1194 kg (2,632 lb.)	977 kg (2,154 lb.)
Q	1168 kg (2,576 lb.)	952 kg (2,099 lb.)
R	1171 kg (2,582 lb.)	929 kg (2,048 lb.)
S	—	907 kg (2,000 lb.)
T	—	888 kg (1,957 lb.)
U	—	871 kg (1,921 lb.)
V	—	859 kg (1,895 lb.)
W	—	855 kg (1,885 lb.)
X	—	869 kg (1,917 lb.)
Y	—	995 kg (2,195 lb.)

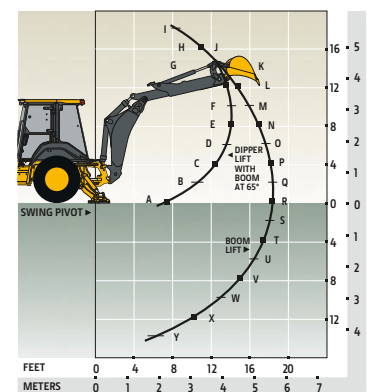
Lift capacities are over end with stabilizers down and tires tangent to ground.



With Standard Dipperstick



With Extendable Dipperstick, Retracted



With Extendable Dipperstick, Extended

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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. 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 a unit with 19.5L-24-in. 12PR (R4) tubeless rear and 12-16.5 12PR (NHS) front tires, and 0.86-m³ (1.13 cu. yd.) loader bucket.



MB310GBU (25-06)



JOHN DEERE