



310SL SPECIFICATIONS

Engine	310SL		
Manufacturer and Model	John Deere PowerTech™ Plus 4045HT082 turbocharged		
Non-Road Emission Standard	EPA Final Tier 4/EU Stage IV		
Displacement	4.5 L (276 cu. in.)		
Net Peak Power (ISO 9249)	74 kW (99 hp) at 2,244 rpm		
Net Peak Torque (ISO 9249)	417 Nm (307 lb.-ft.) at 1,400 rpm		
Net Torque Rise	30%		
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	<i>Forward</i>	<i>Reverse</i>	
Gear 1	5.6 km/h (3.5 mph)	7.0 km/h (4.3 mph)	
Gear 2	10.1 km/h (6.3 mph)	12.8 km/h (8.0 mph)	
Gear 3	20.6 km/h (12.8 mph)	20.4 km/h (12.7 mph)	
Gear 4	34.5 km/h (21.4 mph)	—	
Gear 5	40.0 km/h (24.9 mph)	—	
Axles			
Axle Oscillation, Stop to Stop, Front Axle	22 deg.		
Axle Ratings	<i>Mechanical-Front-Wheel Drive (MFWD)</i>		
	<i>Non-Powered Front</i>	<i>Rear</i>	
SAE J43	5000 kg (11,023 lb.)	7000 kg (15,432 lb.)	
Dynamic	8500 kg (18,739 lb.)	9500 kg (20,944 lb.)	
Static	22 500 kg (49,604 lb.)	26 000 kg (57,320 lb.)	
Ultimate	35 000 kg (77,162 lb.)	39 500 kg (87,083 lb.)	
Differentials			
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	<i>Non-Powered Front</i>	<i>MFWD</i>	
Curb-Turning Radius			
With Brakes	3.58 m (11 ft. 9 in.)	3.66 m (12 ft. 0 in.)	
Without Brakes	4.21 m (13 ft. 10 in.)	4.35 m (14 ft. 3 in.)	
Bucket-Clearance Circle			
With Brakes	10.18 m (33 ft. 5 in.)	10.27 m (33 ft. 8 in.)	
Without Brakes	11.08 m (36 ft. 4 in.)	11.27 m (37 ft. 0 in.)	
Steering Wheel Turns (lock to lock)	3.2	2.7	
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)		

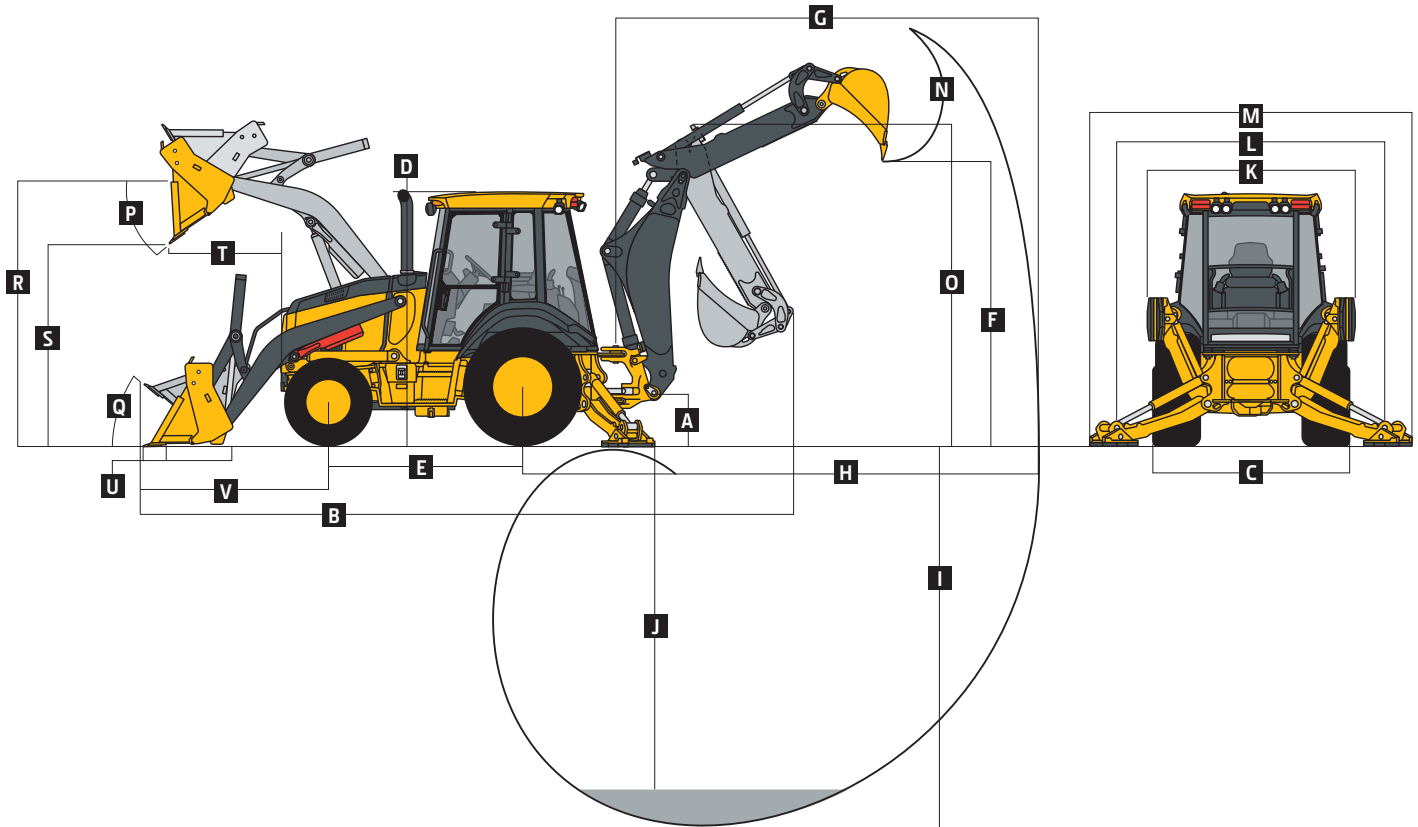
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Hydraulics (continued)		310SL
System Relief Pressure, Backhoe and Loader	24 993 kPa (3,625 psi)	
Controls		
Backhoe	2-lever mechanical standard; pilot controls with pattern select and auxiliary functions optional; field kits available for additional 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	
Electrical		
Voltage	12 volt	
Alternator Rating	150 amp with cab / 120 amp with canopy and quarter 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; LED light field kits available with both flood- and spotlights	
Operator Station		
Type (SAE J1040)	Canopy, isolation mounted, ROPS/FOPS, left/right access, with molded roof; optional quarter cab (front glass only) and fully enclosed cab	
Tires/Wheels		
	<i>Front</i>	<i>Rear</i>
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 580	500/70R24 580
Serviceability		
Refill Capacities		
Cooling System	35 L (37 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	111.7 L (29.5 gal.)	
Hydraulic Reservoir	45 L (11.9 gal.)	
MFWD Housing		
Axle	6.5 L (6.9 qt.)	
Planetary (each)	0.9 L (1 qt.)	
Hydra™ XR Hydraulic Oil	Optional	
Operating Weights		
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and 204-kg (450 lb.) Counterweight	7287 kg (16,064 lb.)	
Typical with Cab, Extendable Dipperstick, and 567-kg (1,250 lb.) Counterweight	8135 kg (17,934 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.)	

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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		
	<i>With Standard Backhoe</i>	<i>With Optional Extendable Dipperstick</i>	
		<i>Retracted</i>	<i>Extended</i>
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)

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With Optional Extendable Dipperstick

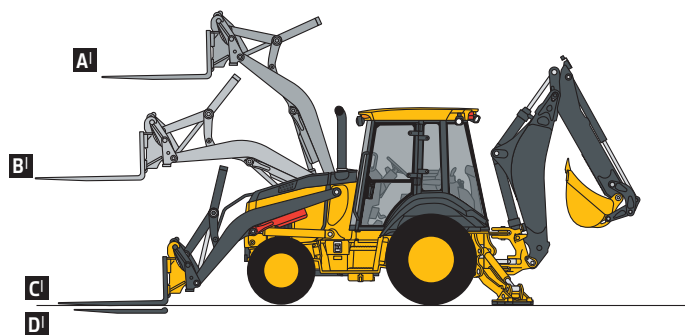
	With Standard Backhoe	Retracted	Extended
N Bucket Rotation	190 deg.	190 deg.	190 deg.
O Transport Height	3.49 m (11 ft. 6 in.)	3.50 m (11 ft. 6 in.)	3.50 m (11 ft. 6 in.)

Loader Dimensions and Performance

	Heavy-duty	Heavy-duty long lip	Heavy-duty	Multipurpose
P Bucket Dump Angle, Maximum	45 deg.			
Q Rollback Angle at Ground Level	40 deg.			
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

	1219-mm (48 in.) Tines	1524-mm (60 in.) Tines
Hydraulic Capacity		
A Maximum Height	2073 kg (4,570 lb.)	1891 kg (4,170 lb.)
B Maximum Reach	3162 kg (6,971 lb.)	3003 kg (6,621 lb.)
C At Ground Line	4145 kg (9,138 lb.)	3883 kg (8,561 lb.)
D Below Ground Line	211 mm (8.3 in.)	211 mm (8.3 in.)



Lift Capacity with Bucket

Calculated with 610-mm x 0.21-m³ (24 in. x 7.5 cu. ft.) bucket; bucket impacts overall lift capacity

