

2017 – 4X4 BACK HOE SPECIFICATIONS

Highway Department – Pelham, NH

It is the intention of this specification to describe a 4 Wheel Drive Back Hoe as outlined in the following specifications:

Bidders are cautioned to list any and all deviations from these specifications in order for their bid to receive full consideration. Bidders that do not fully list and explain deviations from these specifications shall be considered as "non - responsive". Bidders shall furnish complete manufacturers detailed literature and written specifications with their proposal. The use of manufacturers' names and/or model numbers is strictly for the purpose of indicating the quality of materials required.

#1 A 4 Wheel Drive Back Hoe 15ft internal extending dipper with a 1.5yd front bucket or larger with bolt on reversible cutting edge with a minimum 9 ft dumping height and Quick fit for front bucket with quick connections to run other attachments. A back-hoe pin grabber with 24" rear digging bucket and a hydraulic thumb attached to the extending dipper with bi-directional hydraulics with a diverter valve to add Optional buckets or hammer.

#2 Engine and Transmission: 105hp or more with turbo, no DPF, center mount hydraulic pump with variable flow, block heater, 150 amp alternator 900 cold cranking amps battery. Auto shift transmission with Torquel,OCK and easy ride control

#3 Cab: Heated air suspension seat, A/C, Interior mirror, outside mirrors, front and rear work lights and step mounted toolbox, strobe light. 2 post (ROPS)with (FOPS), seat belts, Seat mounted pilot controls for rear boom and rear bucket, 2 door entry, tilt steering column, rear window washer and wiper, AM-FM weather band radio with roof mounted speakers in cab, full gauge package,

#4 Miscellaneous. Flip over stabilizer feet, brake pedals locked together or can be independently operated, 40-gallon fuel tank with locking cap, tilt engine hood, abrasion protection on all hoses and valves, service manuals.

#5 Need separate price on a 48" tilting grading bucket.

We also have a 1997 New Holland 555 E 4-wheel drive back-hoe with 12,613 hours on it to be traded in.

It can be seen at our yard at 31 Newcomb Field Parkway, Pelham, NH 03076.

Exceptions to bid

#2) Unit has a DPF, John Deere will warranty DPF for 10 Years Autoshift transmission with hydraulic reverser standard, electric clutch cutoff on loader lever. 5 speed forward 3 reverse with max speed of 24.9 mph. No Torquel as it would be a Proprietary name. Not sure what OCK stands for.

#3) Heated seat is not an available option.

#4) Fuel tank is 38 gallon capacity.

2017 John Deere 310SL HL as specified less exceptions	\$111,390.00
with 5 year/3000 Hr Powertrain and Hydraulics Warranty	
1997 New Holland 555 E with 12,613 Hours	- \$7000.00
Net Cost to Pelham	\$104,390.00
Optional Werk Brau 48" Hydraulic Tilt Bucket	\$5,700.00



Travis Lynn - Vice President
Nortrax Inc
98 Sheep Davis Rd
Pembroke NH 03275
603-225-2769



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	
		Single stage, dual phase with 2.63:1 stall ratio, 280 mm (11 in.)	
Torque Converter			
Maximum Travel Speeds with Standard Engine, Measured with 21L-24 Rear Tires		<i>Forward</i>	<i>Reverse</i>
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		<i>Front</i>	<i>Rear</i>
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		<i>MFWD</i>	<i>Non-Powered Front</i>
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

	<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)	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
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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 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

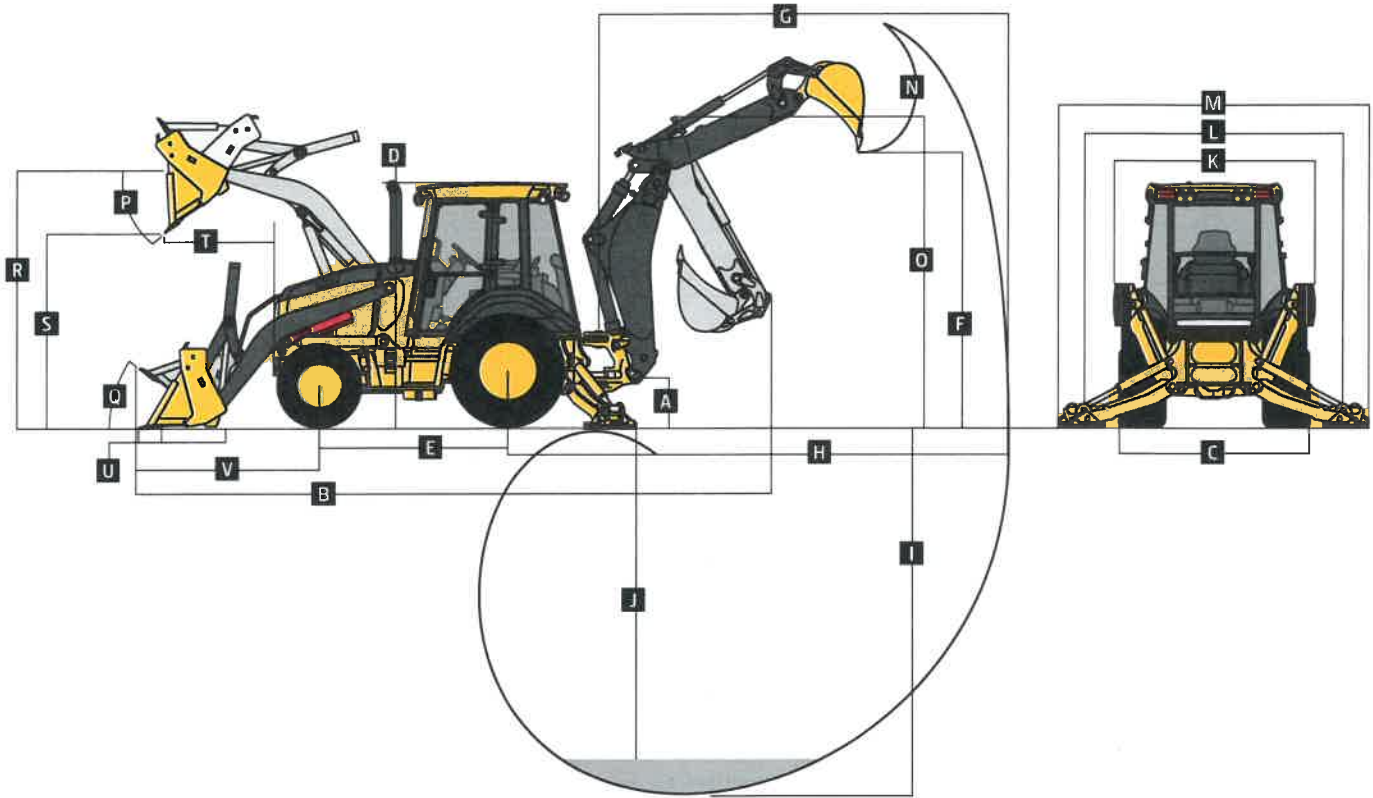
With Full Fuel Tank, 79-kg (175 lb.) Operator, Standard Equipment, and 567-kg (1,250 lb.) Counterweight	8269 kg (18,231 lb.)
Typical with Cab and 567-kg (1,250 lb.) Counterweight	8533 kg (18,811 lb.)
Optional Components (weight difference between base equipment and option)	
Cab	263 kg (580 lb.)
MFWD with Tires	110 kg (242 lb.)
Front Loader Coupler	257 kg (566 lb.)
Backhoe Bucket Coupler	64 kg (141 lb.)

310SL HL

Overall Dimensions

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.)

310SL HL



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.

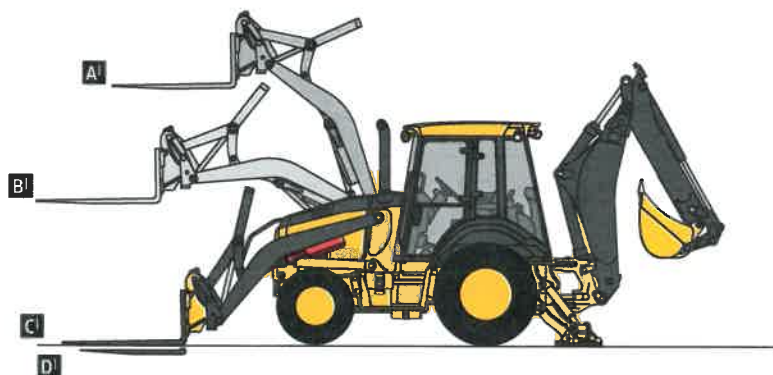
Bucket Range	305–610 mm (12–24 in.)	
Digging Force		
Bucket Cylinder	70.9 kN (15,947 lb.)	
Lift Mode	78.3 kN (17,596 lb.)	
Crowd Cylinder	38.9 kN (8,750 lb.)	
Lift Mode	42.9 kN (9,655 lb.)	
Swing Arc	180 deg.	
Operator Control	2 levers	
	<i>With Extendable Dipperstick</i>	<i>With Extendable Dipperstick</i>
	<i>Retracted</i>	<i>Extended</i>
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.			
	<i>Heavy-duty</i>	<i>Heavy-duty long lip</i>	<i>Heavy-duty</i>	<i>Multipurpose</i>
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.)

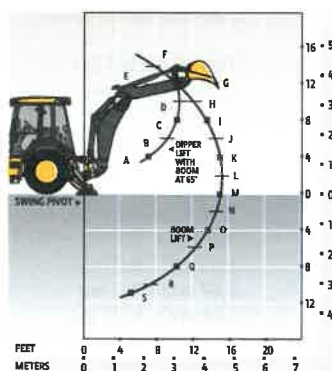
Lift Capacity with Quick-Coupler Forks

Hydraulic Capacity	<i>1219-mm (48 in.) Tines</i>	<i>1524-mm (60 in.) Tines</i>
A ¹ Maximum Height	2002 kg (4,413 lb.)	1872 kg (4,126 lb.)
B ¹ Maximum Reach	3149 kg (6,943 lb.)	2969 kg (6,545 lb.)
C ¹ At Ground Line	4007 kg (8,833 lb.)	3789 kg (8,353 lb.)
D ¹ Below Ground Line	228 mm (9 in.)	228 mm (9 in.)

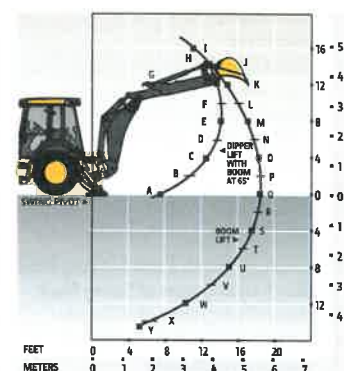
**Lift Capacity with Bucket**

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-m³ (24 in. x 7.5 cu. ft.) bucket. Bucket impacts overall lift capacity.

	<i>With 1.06-m (3 ft. 6 in.) Extendable Dipperstick, Retracted</i>		<i>With 1.06-m (3 ft. 6 in.) Extendable Dipperstick, Extended</i>	
	<i>Standard Lift</i>	<i>Lift Mode</i>	<i>Standard Lift</i>	<i>Lift Mode</i>
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

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	310L EP	310L	310SL	310SL HL	315SL	410L	710L	Backhoe (continued)
●	●	●	●	●	●	●	Coolant recovery tank with low-level indicator								Standard dipperstick, 4.34-m (14 ft. 3 in.) digging depth
●	●	●	●	●	●	●	Foldout, hinged cooling system						●		Standard dipperstick, 4.17-m (13 ft. 8 in.) digging depth
●	●	●	●	●	●	●	Serpentine belt with automatic belt tensioner							●	Standard dipperstick, 4.83-m (15 ft. 10 in.) digging depth
●							Suction-type cooling fan								Standard dipperstick, 5.25-m (17 ft. 3 in.) digging depth
▲							Viscous variable-rate cooling fan							●	Extendable dipperstick, 1.06-m (3 ft. 6 in.) extension
	●	●	●	●	●	●	Electronically controlled, variable-rate suction-type cooling fan	▲	▲	▲	●	▲			Extendable dipperstick, 1.21-m (4 ft. 0 in.) extension
	●	●	●	●	●	●	Self-cleaning exhaust aftertreatment system							▲	Extendable dipperstick, 1.37-m (4 ft. 6 in.) extension
▲	▲	▲	▲	▲	▲	▲	Chrome exhaust extension								Heavy-duty backhoe bucket cylinder
	●	●	●	●	●		Grid heat								ISO (Deere) 2-lever mechanical backhoe controls
						●	Glow plugs			▲	●	▲	●		2-lever pilot controls with pattern-selection feature
▲							Ether starting aid	●	●	●	●	●	●	▲	Backhoe transport lock lever
●	▲	▲	▲	▲	▲	▲	1,000-watt electric engine coolant heater	▲	▲	▲	●	▲	▲	▲	Swing lock pin stored in operator's station
●	●	●	●	●	●	●	Electronic fuel lift pump	▲	▲	▲	●	▲	▲	▲	Stabilizers with 2-direction anti-drift valves
Powertrain															Extended (long) stabilizers with reversible pads
●	●					●	PowerShift™ transmission: Torque converter with twist-grip Transmission Control Lever (TCL) and neutral safety switch interlock (1st through 4th gears)	●	●	●	●	●	●	●	Severe-duty backhoe bucket with lift loops
			●	●	●		PowerShift transmission: Torque converter with twist-grip TCL and neutral safety switch interlock (1st through 5th gears)			▲	●				Backhoe couplers for John Deere, Case, and Cat buckets
		●	●	●	●		5th-gear overdrive			▲	▲	▲	▲		Auxiliary backhoe valve with 1-way flow for hammers and compactors with plumbing
		▲	▲	▲	▲	▲	AutoShift transmission	▲	▲	▲	▲	▲	▲	▲	Auxiliary backhoe valve with 1- and 2-way flow for swingers, thumbs, augers, etc. (plumbing not included)
●	●	●	●	●	●	●	Transmission oil cooler	▲	▲	▲	▲	▲	▲	▲	Hydraulic thumb
▲	▲	▲	●	▲	▲	▲	Transmission remote oil-sampling port	▲	▲	▲	▲	▲	▲	▲	Rear hydraulic coupler
●	●	●	●	●	●		Differential lock, electric foot actuated, protection on/off	▲	▲	▲	▲	▲	▲	▲	Spring-type coupler
			●	●	●	●	Differential lock, electric foot actuated								Loader*
		●	●	●	●	●	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)								Hydraulic System
▲	▲	▲	▲	▲	▲		MFWD driveshaft guard	●							119-L/m (31.5 gpm) tandem-gear pump with unloader, open-center system
Backhoe															106-L/m (28 gpm) single-gear pump, open-center system
			●		●	●	Lift mode			●					136-L/m (36 gpm) tandem-gear pump, open-center system
			●		●	●	Precision mode			●		●			
●	●						Standard dipperstick, 4.27-m (14 ft. 0 in.) digging depth								

*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-m³ (1.12 cu. yd.) loader buckets, and 610-mm x 0.18-m³ (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-m³ (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m³ (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-m³ (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m³ (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 front tires, 1.00-m³ (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m³ (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-m³ (1.5 cu. yd.) loader bucket, and 610-mm x 0.21-m³ (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-m³ (1.62 cu. yd.) loader bucket, and 610-mm x 0.31-m³ (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 <i>(continued)</i>
						●	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/flasher (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
							Operator's Station <i>(continued)</i>
●	●	●	●	●	●	●	Monitor system with audible and visual warnings: Engine air restriction / Low alternator voltage / Engine oil pressure / Hydraulic filter restriction / Parking brake on/off / Aftertreatment temperature / Transmission fluid temperature / Fuel / Hour meter / Machine diagnostic information via 4-push-button/LCD operator interface
●	●	●	●			●	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-m³ (1.12 cu. yd.) loader buckets, and 610-mm x 0.18-m³ (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-m³ (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m³ (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-m³ (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m³ (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 front tires, 1.00-m³ (1.31 cu. yd.) loader bucket, and 610-mm x 0.21-m³ (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-m³ (1.5 cu. yd.) loader bucket, and 610-mm x 0.21-m³ (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-m³ (1.62 cu. yd.) loader bucket, and 610-mm x 0.31-m³ (24 in. x 11 cu. ft.) backhoe bucket.