310G 310SG



Engine	310G		310SG	
Type	John Deere 4045D, naturally aspirated standard / John Deere 4045T, turbocharged optional; meets U.S. EPA, CARB, and European NRMM non-road diesel engine emission regulations, effective January 1, 2004		John Deere 4045T, turbocharged; meets U.S. EPA, CARB, and European NRMM non-road diesel engine emission regulations, effective January 1, 2004	
Rated power	75 SAE gross hp (56 kW) / 70 SAE net hp (52 kW) @ 2,300 rpm		92.5 SAE gross hp (69 kW) / 86 SAE net hp (64 kW) @ 2,300 rpm	
John Deere 4045T with turbocharger	84.5 SAE gross hp (63 kW) / 80 SAE net hp (60 kW) @ 2,200 rpm		N/A	
Cylinders	4		4	
Displacement	276 cu. in. (4.524 L)		276 cu. in. (4.524 L)	
Fuel consumption, typical	1.1 to 1.9 gal./hr. (4.2 to 7.2 L/h)		1.3 to 2.3 gal./hr. (4.9 to 8.7 L/h)	
Torque rise	24 percent		38 percent	
With turbocharger	30 percent		N/A	
Maximum net torque	218 lb.-ft. (296 Nm)		277 lb.-ft. (376 Nm)	
With turbocharger	256 lb.-ft. (347 Nm)		N/A	
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, evacuator valve, and prescreener		dual stage dry type with safety element and precleaner	
Electrical system	12 volt with 65-amp alternator		12 volt with 65-amp alternator	
Suction-type cooling fan				

Transmission				
Four-speed, helical cut gear, collar-shift transmission synchronized in all gears with hydraulic reverser (optional full-power-shifted transmission on 310SG)				
Torque converter, single stage, dual phase with 2.63:1				
stall ratio	11 in. (280 mm)		11 in. (280 mm)	
Travel speeds with 19.5L-24 rear tires	*Forward*	*Reverse*	*Forward*	*Reverse*
Gear 1	3.6 mph (5.8 km/h)	4.0 mph (6.4 km/h)	3.6 mph (5.8 km/h)	4.0 mph (6.4 km/h)
Powershift			3.6 mph (5.8 km/h)	4.0 mph (6.4 km/h)
Gear 2	5.9 mph (9.5 km/h)	6.6 mph (10.6 km/h)	5.9 mph (9.5 km/h)	6.6 mph (10.6 km/h)
Powershift			5.8 mph (9.3 km/h)	6.7 mph (10.8 km/h)
Gear 3	13.9 mph (22.4 km/h)	13.9 mph (22.4 km/h)	13.9 mph (22.4 km/h)	13.9 mph (22.4 km/h)
Powershift			13.9 mph (22.4 km/h)	16.1 mph (25.9 km/h)
Gear 4	20.5 mph (33.0 km/h)	20.5 mph (33.0 km/h)	20.5 mph (33.0 km/h)	20.5 mph (33.0 km/h)
Powershift			20.5 mph (33.0 km/h)	N/A

Final Drives
Heavy-duty, inboard planetary final drives evenly distribute shock loads over three gears

Brakes
Power-assisted, hydraulic wet disc, mounted inboard, self adjusting and self equalizing

Capacities		
Fuel tank (with ground level fueling)	36 gal. (136 L)	36 gal. (136 L)
Engine coolant	17 qt. (16 L)	17 qt. (16 L)
Engine oil including filter	9 qt. (8.5 L)	9 qt. (8.5 L)
Torque converter and transmission	15 qt. (14 L)	15 qt. (14 L)
Hydraulic system	24 gal. (91 L)	24 gal. (91 L)
Rear axle	4.2 gal. (16 L)	4.2 gal. (16 L)
Mechanical-front-wheel-drive axle	2.3 gal. (8.5 L)	2.3 gal. (8.5 L)

Steering		
Hydrostatic power steering and emergency steering conform to ISO5010		
Non-powered axle		
Curb turning radius with brakes	10 ft. 7 in. (3.23 m)	10 ft. 7 in. (3.23 m)
Without brakes	12 ft. 8 in. (3.86 m)	12 ft. 8 in. (3.86 m)
Bucket clearance circle with brakes	30 ft. 4 in. (9.25 m)	30 ft. 4 in. (9.25 m)
Without brakes	34 ft. 0 in. (10.4 m)	34 ft. 0 in. (10.4 m)
Steering wheel turns, stop to stop	3.1	3.1
Mechanical-front-wheel-drive		
Curb turning radius with brakes	10 ft. 11 in. (3.34 m)	10 ft. 11 in. (3.34 m)
Without brakes	13 ft. 8 in. (4.17 m)	13 ft. 8 in. (4.17 m)
Bucket clearance circle with brakes	29 ft. 9 in. (9.07 m)	29 ft. 9 in. (9.07 m)
Without brakes	35 ft. 3 in. (10.74 m)	35 ft. 3 in. (10.74 m)
Steering wheel turns, stop to stop	3.0	3.0
Axle oscillations stop to stop, both axles	22 degrees	22 degrees
Axle ratings (SAE J43)		
Front	17,340 lb. (7865 kg)	18,860 lb. (8555 kg)
Rear	12,610 lb. (5720 kg)	13,670 lb. (6200 kg)

Hydraulic System		
System	open center	open center
Pressure		
Backhoe	3,625 psi (25 000 kPa)	3,625 psi (25 000 kPa)
Loader	2,750 psi (19 000 kPa)	3,625 psi (25 000 kPa)
Pump	gear type	gear type, tandem with unloader
Flow @ 2,200 rpm	28 gpm (106 L/min.)	
Backhoe		36 gpm (136 L/min.)
Loader		28 gpm (106 L/min.)
Filter, return oil	10-micron, spin-on enclosed replaceable element	10-micron, spin-on enclosed replaceable element

Cylinders

	310G			310SG		
	Bore	*Stroke*	*Rod*	*Bore*	*Stroke*	*Rod*
Loader boom (2)	3.15 in. (80 mm)	31.1 in. (790 mm)	1.97 in. (50 mm)	3.15 in. (80 mm)	31.1 in. (790 mm)	1.97 in. (50 mm)
Loader bucket (1)	3.54 in. (90 mm)	29.3 in. (744 mm)	1.97 in. (50 mm)	3.54 in. (90 mm)	29.3 in. (744 mm)	1.97 in. (50 mm)
Backhoe boom (1)	4.33 in. (110 mm)	32.3 in. (821 mm)	2.20 in. (56 mm)	4.72 in. (120 mm)	31.3 in. (795 mm)	2.20 in. (56 mm)
Backhoe crowd (1)	4.33 in. (110 mm)	22.3 in. (566 mm)	2.20 in. (56 mm)	4.53 in. (115 mm)	23.9 in. (607 mm)	2.48 in. (63 mm)
Backhoe bucket (1)	3.15 in. (80 mm)	35.1 in. (892 mm)	1.97 in. (50 mm)	3.54 in. (90 mm)	31.9 in. (810 mm)	2.20 in. (56 mm)
Backhoe bucket heavy-duty option (1)				3.94 in. (100 mm)	31.9 in. (810 mm)	2.48 in. (63 mm)
Backhoe swing (2)	3.15 in. (80 mm)	12.2 in. (310 mm)	1.77 in. (45 mm)	3.54 in. (90 mm)	10.9 in. (278 mm)	1.97 in. (50 mm)
Backhoe extendable dipperstick (1)	2.48 in. (63 mm)	41.8 in. (1062 mm)	1.26 in. (32 mm)	2.76 in. (70 mm)	42.0 in. (1067 mm)	1.77 in. (45 mm)
Backhoe stabilizer (2)	3.15 in. (80 mm)	19.7 in. (500 mm)	1.97 in. (50 mm)	3.54 in. (90 mm)	19.7 in. (500 mm)	1.97 in. (50 mm)
Steering (1) non-powered axle	1.97 in. (50 mm)	9.49 in. (241 mm)	0.98 in. (25 mm)	1.97 in. (50 mm)	9.49 in. (241 mm)	0.98 in. (25 mm)
Steering (1) MFWD	2.56 in. (65 mm)	8.27 in. (210 mm)	1.42 in. (36 mm)	2.56 in. (65 mm)	8.27 in. (210 mm)	1.42 in. (36 mm)

Tires

	Rear	*Front*	*Rear*	*Front*
With non-powered front axle	16.9-24, 8 PR R4	11L-15, 8 PR F3	16.9-24, 8 PR R4	11L-15, 8 PR F3
	17.5L-24, 10 PR R4	11L-15, 8 PR F3	19.5L-24, 8 PR R4	11L-16, 12 PR F3
	19.5L-24, 8 PR R4	11L-16, 12 PR F3		
With mechanical-front-wheel-drive	16.9-24, 8 PR R4	12-16.5, 8 PR NHS	19.5L-24, 8 PR R4	12.5/80-18, 10 PR
	19.5L-24, 8 PR R4	12-16.5, 8 PR NHS		

SAE Operating Weights

With 17.5L-24, 10 PR R4 rear tires; 11L-15, 8 PR F3 front tires; 1.00-cu. yd. (0.76 m^3) loader bucket; and 24-in. x 6.5-cu. ft. (610 mm x 0.18 m^3) backhoe bucket standard	12,800 lb. (5806 kg)	
With 19.5L-24, 8 PR R4 rear tires; 11L-16, 12 PR F3 front tires; 1.12-cu. yd. (0.86 m^3) loader bucket; and 24-in. x 7.5-cu. ft. (610 mm x 0.21 m^3) backhoe bucket standard		13,500 lb. (6124 kg)
Cab adds	580 lb. (263 kg)	580 lb. (263 kg)
Mechanical-front-wheel-drive with tires adds	370 lb. (168 kg)	485 lb. (220 kg)
Extendable dipperstick excluding required counterweight adds	440 lb. (200 kg)	490 lb. (222 kg)
Typical operating weight with cab, MFWD with tires, extendable dipperstick, and two counterweights equaling 900 lb. (408 kg)	15,090 lb. (6845 kg)	15,955 lb. (7237 kg)
Backhoe bucket coupler adds	130 lb. (59 kg)	138 lb. (63 kg)

See backhoe and loader performance data for bucket weights.

Loader Buckets

	Width	*Heaped Capacity*	*Weight*	*Width*	*Heaped Capacity*	*Weight*
Heavy-duty long lip*	86 in. (2180 mm)	1.00 cu. yd. (0.76 m^3)	710 lb. (322 kg)			
Heavy-duty long lip**	86 in. (2180 mm)	1.12 cu. yd. (0.86 m^3)	940 lb. (426 kg)	86 in. (2180 mm)	1.25 cu. yd. (0.96 m^3)	875 lb. (397 kg)
				92 in. (2340 mm)	1.30 cu. yd. (1.00 m^3)	1,050 lb. (476 kg)
Heavy-duty long lip	86 in. (2180 mm)	1.25 cu. yd. (0.96 m^3)	875 lb. (397 kg)			
Multipurpose**	82 in. (2078 mm)	1.18 cu. yd. (0.91 m^3)	1,664 lb. (755 kg)			
	86 in. (2180 mm)	1.25 cu. yd. (0.96 m^3)	1,713 lb. (777 kg)	82 in. (2080 mm)	1.18 cu. yd. (0.91 m^3)	1,664 lb. (755 kg)
				86 in. (2180 mm)	1.25 cu. yd. (0.96 m^3)	1,713 lb. (777 kg)
				92 in. (2340 mm)	1.32 cu. yd. (1.01 m^3)	1,800 lb. (816 kg)

*Pre-drilled for auxiliary cutting edge.
**With auxiliary cutting edge and skid shoes standard.

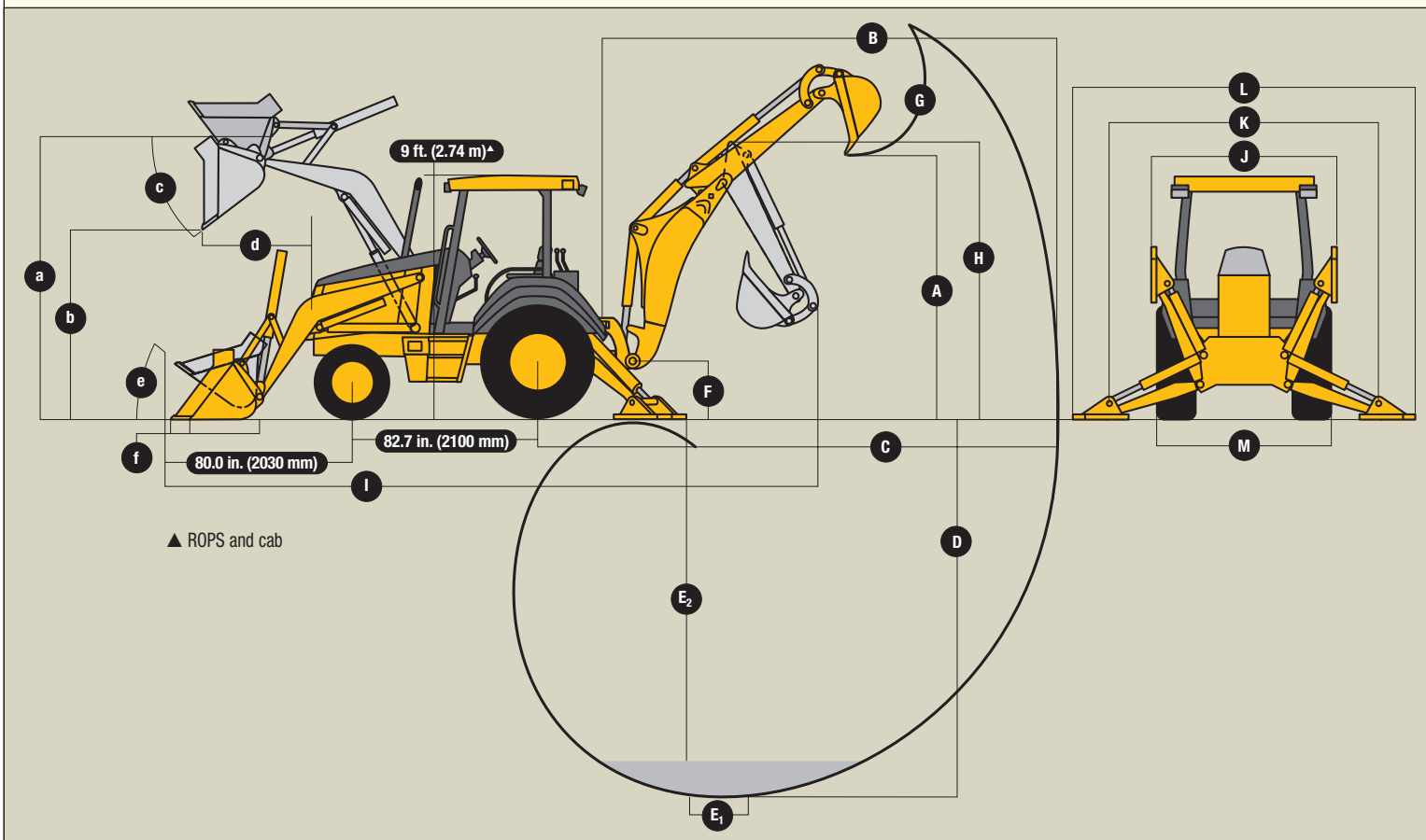
Backhoe Performance

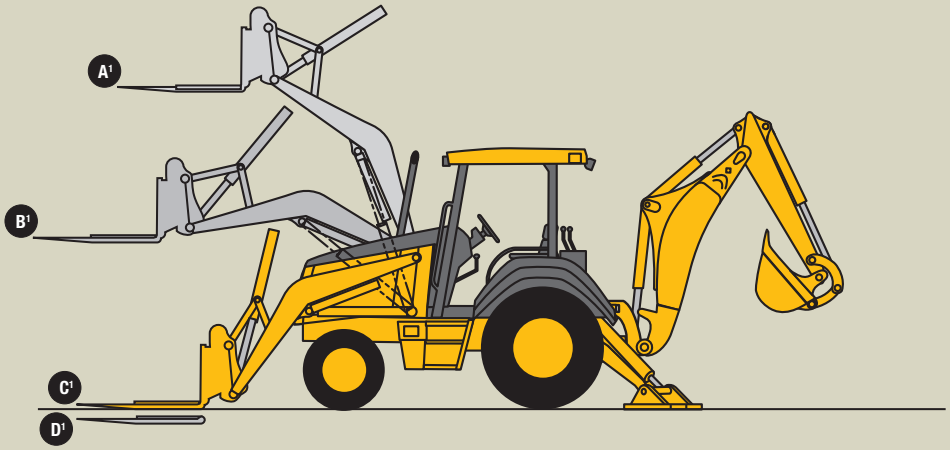
	*With Standard Backhoe**	*With Extendable Dipperstick**		*With Standard Backhoe***	*With Extendable Dipperstick***	
		Retracted	*Extended*		*Retracted*	*Extended*
Digging force, bucket cylinder	11,106 lb. (49.4 kN)	11,211 b. (49.9 kN)	11,211 lb. (49.9 kN)	11,990 lb. (53.3 kN)	12,158 lb. (54.1 kN)	12,158 lb. (54.1 kN)
With heavy-duty cylinder option				15,236 lb. (67.7 kN)	15,308 lb. (68.0 kN)	15,308 lb. (68.0 kN)
Digging force, crowd cylinder	7,006 lb. (31.2 kN)	6,782 lb. (30.2 kN)	4,844 lb. (21.5 kN)	8,090 lb. (36.0 kN)	7,796 lb. (34.7 kN)	5,628 lb. (25.0 kN)
Swing arc	180 degrees	180 degrees	180 degrees	180 degrees	180 degrees	180 degrees
Operator control	two levers	right foot treadle	right foot treadle	two levers	right foot treadle	right foot treadle
Bucket rotation	190 degrees	190 degrees	190 degrees	190 degrees	190 degrees	190 degrees
Stabilizer angle rearward	18 degrees	18 degrees	18 degrees	18 degrees	18 degrees	18 degrees
Leveling angle	14 degrees	14 degrees	14 degrees	14 degrees	14 degrees	14 degrees

*Backhoe specifications are with 24-in. x 6.5-cu. ft. (610 mm x 0.18 m^3) bucket.
**Backhoe specifications are with 24-in. x 7.5-cu. ft. (610 mm x 0.21 m^3) bucket.

Backhoe Buckets

	Width	*Capacity*	*Weight*	*Width*	*Capacity*	*Weight*
Standard duty	18 in. (457 mm)	4.6 cu. ft. (0.13 m^3)	260 lb. (118 kg)			
	24 in. (610 mm)	6.5 cu. ft. (0.18 m^3)	300 lb. (136 kg)	24 in. (610 mm)	7.5 cu. ft. (0.21 m^3)	350 lb. (159 kg)
Heavy duty with lift loop	12 in. (305 mm)	2.8 cu. ft. (0.11 m^3)	240 lb. (109 kg)	12 in. (305 mm)	3.3 cu. ft. (0.09 m^3)	295 lb. (134 kg)
	18 in. (457 mm)	5.1 cu. ft. (0.14 m^3)	335 lb. (152 kg)	18 in. (457 mm)	5.1 cu. ft. (0.14 m^3)	335 lb. (152 kg)
	24 in. (610 mm)	7.5 cu. ft. (0.21 m^3)	400 lb. (181 kg)	24 in. (610 mm)	7.5 cu. ft. (0.21 m^3)	400 lb. (181 kg)
				24 in. (610 mm)	8.8 cu. ft. (0.25 m^3)	420 lb. (191 kg)
	30 in. (762 mm)	10.0 cu. ft. (0.28 m^3)	445 lb. (202 kg)	30 in. (762 mm)	10.0 cu. ft. (0.28 m^3)	445 lb. (202 kg)
				36 in. (914 mm)	12.5 cu. ft. (0.35 m^3)	510 lb. (231 kg)
Severe duty with lift loop				18 in. (457 mm)	5.1 cu. ft. (0.14 m^3)	362 lb. (164 kg)
				24 in. (610 mm)	7.5 cu. ft. (0.21 m^3)	425 lb. (193 kg)
				24 in. (610 mm)	8.8 cu. ft. (0.25 m^3)	455 lb. (206 kg)
				30 in. (762 mm)	10.0 cu. ft. (0.28 m^3)	475 lb. (215 kg)
Ditch cleaning				36 in. (914 mm)	12.5 cu. ft. (0.35 m^3)	510 lb. (231 kg)





Lift Capacity with Quick-Coupler/Forks	310G
A[1] Maximum height	3,685 lb. (1673 kg)
B[1] Maximum reach	5,570 lb. (2528 kg)
C[1] At ground line	7,310 lb. (3319 kg)
D[1] Below ground line	4.4 in. (112.7 mm) to bottom of tine / 2.7 in. (68.3 mm) to top of tine

Backhoe — 310G

		With Standard Backhoe*	With Extendable Dipperstick* Retracted	With Extendable Dipperstick* Extended
A	Loading height, truck loading position	10 ft. 11 in. (3.33 m)	11 ft. 1 in. (3.38 m)	13 ft. 11 in. (4.24 m)
B	Reach from center of swing pivot	17 ft. 10 in. (5.44 m)	18 ft. 1 in. (5.51 m)	21 ft. 5 in. (6.53 m)
C	Reach from center of rear axle	21 ft. 4 in. (6.50 m)	21 ft. 7 in. (6.58 m)	24 ft. 11 in. (7.59 m)
D	Maximum digging depth	14 ft. 3 in. (4.34 m)	14 ft. 5 in. (4.39 m)	17 ft. 11 in. (5.46 m)
E	Digging depth (SAE):			
	(1) 2-ft. (610 mm) flat bottom	14 ft. 2 in. (4.32 m)	14 ft. 4 in. (4.37 m)	17 ft. 10 in. (5.44 m)
	(2) 8-ft. (2440 mm) flat bottom	13 ft. (3.96 m)	13 ft. 4 in. (4.06 m)	17 ft. (5.18 m)
F	Ground clearance, minimum	12 in. (305 mm)	12 in. (305 mm)	12 in. (305 mm)
G	Bucket rotation	190 degrees	190 degrees	190 degrees
H	Transport height	11 ft. 3 in. (3.43 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)
I	Overall length, transport	23 ft. 3 in. (7.09 m)	23 ft. 3 in. (7.09 m)	23 ft. 3 in. (7.09 m)
J	Stabilizer width – transport with ROPS	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)
K	Stabilizer spread – operating	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
L	Stabilizer overall width – operating	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)
M	Width over tires	81.7 in. (2.07 m)	81.7 in. (2.07 m)	81.7 in. (2.07 m)

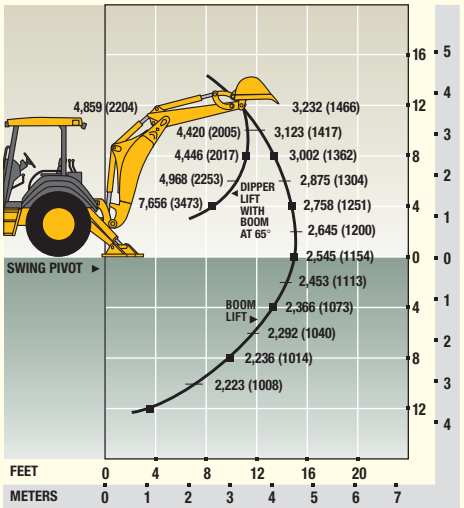
*Backhoe specifications are with 24-in. x 6.5-cu. ft. (610 mm x 0.18 m³) bucket.

310G Loader Performance with Bucket Options

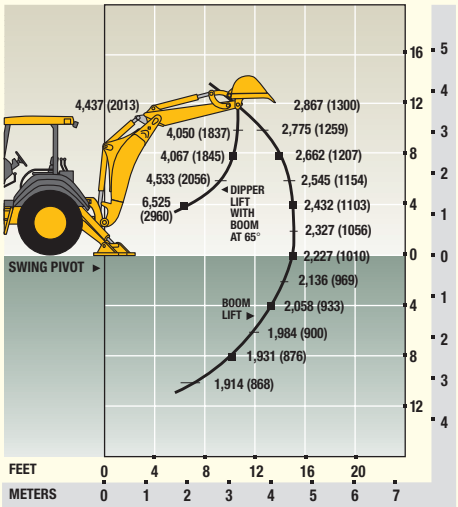
		1.00-cu. yd. (0.76 m³) Heavy-Duty Long Lip	1.12-cu. yd. (0.86 m³) Heavy-Duty Long Lip	1.25-cu. yd. (0.96 m³) Heavy-Duty Long Lip	1.12-cu. yd. (0.86 m³) Multipurpose	1.18-cu. yd. (0.91 m³) Multipurpose	1.25-cu. yd. (0.96 m³) Multipurpose
	Operator control	single lever	single lever	single lever	single lever	single lever	single lever
	Breakout force	8,100 lb. (36.0 kN)	7,950 lb. (35.4 kN)	7,603 lb. (33.8 kN)	7,125 lb. (31.7 kN)	7,175 lb. (31.9 kN)	7,125 lb. (31.7 kN)
	Lifting capacity, full height	5,800 lb. (2631 kg)	5,600 lb. (2540 kg)	5,558 lb. (2523 kg)	5,100 lb. (2313 kg)	5,150 lb. (2335 kg)	5,100 lb. (2313 kg)
a	Height to bucket hinge pin, maximum	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)
b	Dump clearance, bucket at 45 degrees	8 ft. 10 in. (2.69 m)	8 ft. 10 in. (2.69 m)	8 ft. 2 in. (2.59 m)	8 ft. 6 in. (2.59 m)	8 ft. 6 in. (2.59 m)	8 ft. 6 in. (2.59 m)
c	Bucket dump angle, maximum	45 degrees	45 degrees	45 degrees	45 degrees	45 degrees	45 degrees
d	Reach at full height, bucket at 45 degrees	30.9 in. (785 mm)	30.2 in. (767 mm)	31.9 in. (809 mm)	32.2 in. (818 mm)	32.2 in. (818 mm)	32.2 in. (818 mm)
e	Rollback angle at ground level	40 degrees	40 degrees	40 degrees	40 degrees	40 degrees	40 degrees
f	Digging depth below ground, bucket level	6.3 in. (160 mm)	6.9 in. (175 mm)	5.8 in. (147 mm)	7.8 in. (197 mm)	7.8 in. (197 mm)	7.8 in. (197 mm)
	Raising time to full height	5.2 sec.	5.2 sec.	5.2 sec.	5.2 sec.	5.2 sec.	5.2 sec.
	Bucket dump time	1.1 sec.	1.1 sec.	1.1 sec.	1.1 sec.	1.1 sec.	1.1 sec.
	Bucket lowering time (power down)	1.9 sec.	1.9 sec.	1.9 sec.	1.9 sec.	1.9 sec.	1.9 sec.

Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

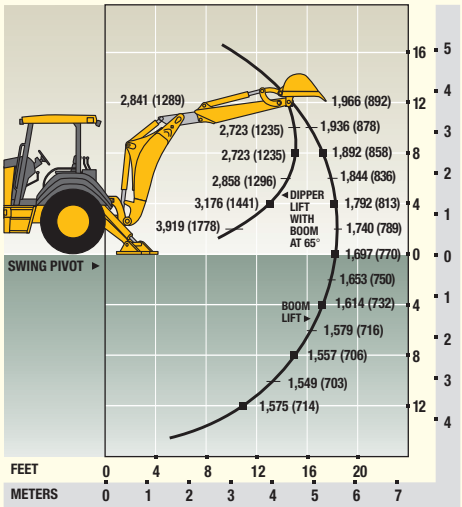
310G Backhoe with Standard Dipperstick

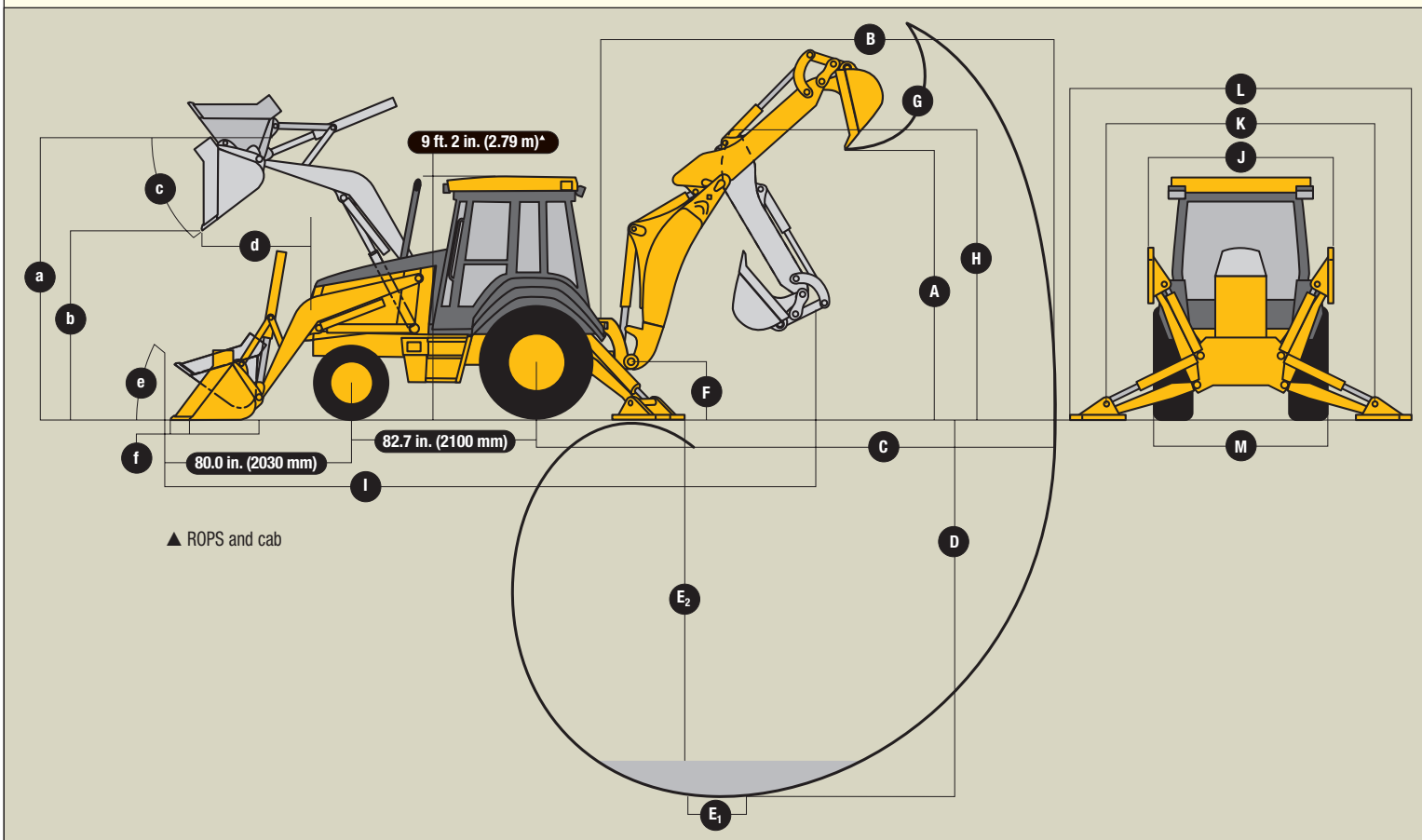


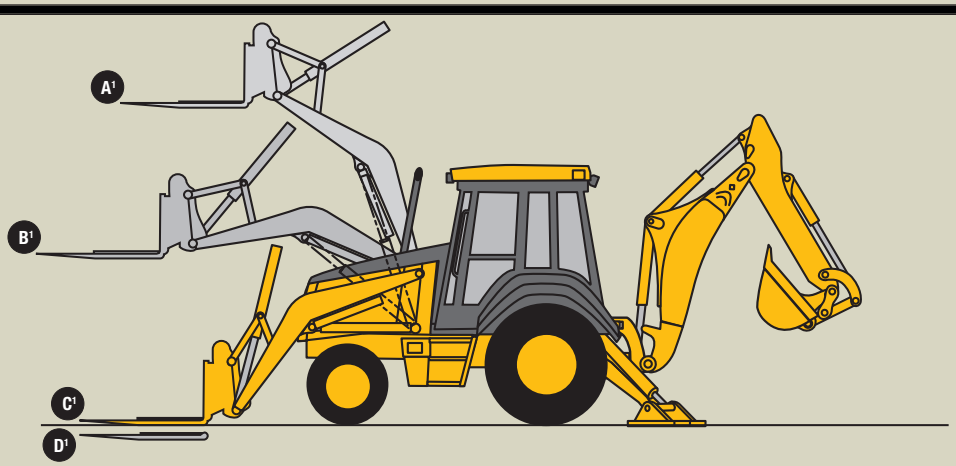
310G Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Retracted



310G Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Extended







Lift Capacity with Quick-Coupler/Forks — 310SG

A1	Maximum height	5,038 lb. (2287 kg)
B1	Maximum reach	7,462 lb. (3388 kg)
C1	At ground line	9,853 lb. (4473 kg)
D1	Below ground line	4.4 in. (112.7 mm) to bottom of tine / 2.7 in. (68.3 mm) to top of tine

Backhoe — 310SG

		With Standard Backhoe*	With Extendable Dipperstick* Retracted	With Extendable Dipperstick* Extended
A	Loading height, truck loading position	11 ft. 3 in. (3.43 m)	11 ft. 7 in. (3.53 m)	14 ft. 1 in. (4.29 m)
B	Reach from center of swing pivot	18 ft. 3 in. (5.56 m)	18 ft. 7 in. (5.66 m)	21 ft. 11 in. (6.68 m)
C	Reach from center of rear axle	21 ft. 9 in. (6.63 m)	22 ft. 1 in. (6.73 m)	25 ft. 4 in. (7.72 m)
D	Maximum digging depth	14 ft. 6 in. (4.42 m)	14 ft. 11 in. (4.55 m)	18 ft. 5 in. (5.61 m)
E	Digging depth (SAE):			
	(1) 2-ft. (610 mm) flat bottom	14 ft. 4 in. (4.37 m)	14 ft. 9 in. (4.50 m)	18 ft. 3 in. (5.56 m)
	(2) 8-ft. (2440 mm) flat bottom	13 ft. 4 in. (4.06 m)	13 ft. 9 in. (4.19 m)	17 ft. 6 in. (5.33 m)
F	Ground clearance, minimum	13 in. (330 mm)	13 in. (330 mm)	13 in. (330 mm)
G	Bucket rotation	190 degrees	190 degrees	190 degrees
H	Transport height	11 ft. 6 in. (3.51 m)	11 ft. 5 in. (3.48 m)	11 ft. 5 in. (3.48 m)
I	Overall length, transport	23 ft. 6 in. (7.16 m)	23 ft. 6 in. (7.16 m)	23 ft. 6 in. (7.16 m)
J	Stabilizer width – transport with ROPS	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)
K	Stabilizer spread – operating	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
L	Stabilizer overall width – operating	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)
M	Width over tires	86 in. (2.18 m)	86 in. (2.18 m)	86 in. (2.18 m)

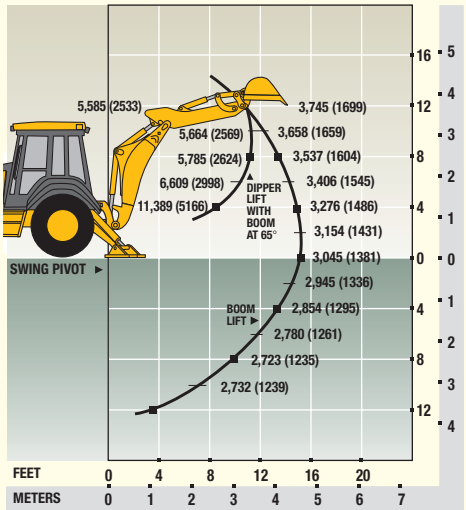
*Backhoe specifications are with 24-in. x 7.5-cu. ft. (610 mm x 0.21 m^3) bucket.

310SG Loader Performance with Bucket Options

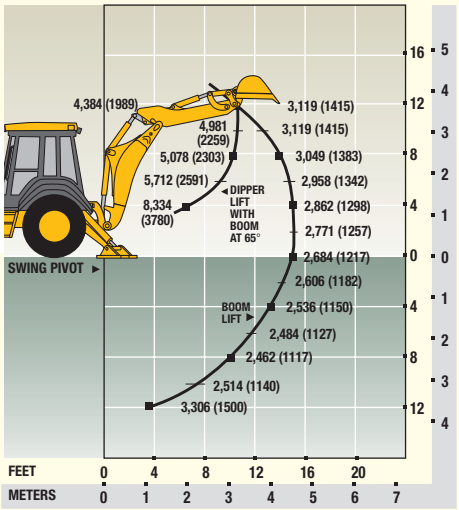
		1.25-cu. yd. (0.96 m^3) Heavy-Duty Long Lip	1.30-cu. yd. (1.00 m^3) Heavy-Duty Long Lip	1.18-cu. yd. (0.91 m^3) Multipurpose	1.25-cu. yd. (0.96 m^3) Multipurpose	1.32-cu. yd. (1.01 m^3) Multipurpose
	Operator control	single lever	single lever	single lever	single lever	single lever
	Breakout force	10,210 lb. (45.4 kN)	10,300 lb. (45.8 kN)	9,750 lb. (43.4 kN)	9,700 lb. (43.1 kN)	9,650 lb. (42.9 kN)
	Lifting capacity, full height	7,340 lb. (3332 kg)	7,200 lb. (3266 kg)	6,750 lb. (3061 kg)	6,700 lb. (3039 kg)	6,600 lb. (2993 kg)
a	Height to bucket hinge pin, maximum	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. (3.40 m)	11 ft. 2 in. (3.40 m)
b	Dump clearance, bucket at 45 degrees	8 ft. 2 in. (2.59 m)	8 ft. 8 in. (2.64 m)	8 ft. 7 in. (2.62 m)	8 ft. 7 in. (2.62 m)	8 ft. 7 in. (2.62 m)
c	Bucket dump angle, maximum	45 degrees	45 degrees	45 degrees	45 degrees	45 degrees
d	Reach at full height, bucket at 45 degrees	36.0 in. (911 mm)	30.1 in. (765 mm)	32.2 in. (818 mm)	32.2 in. (818 mm)	32.2 in. (818 mm)
e	Rollback angle at ground level	40 degrees	40 degrees	40 degrees	40 degrees	40 degrees
f	Digging depth below ground, bucket level	5.8 in. (147 mm)	8.1 in. (206 mm)	7.3 in. (185 mm)	7.3 in. (185 mm)	7.3 in. (185 mm)
	Raising time to full height	4.9 sec.	4.9 sec.	4.9 sec.	4.9 sec.	4.9 sec.
	Bucket dump time	1.1 sec.	1.1 sec.	1.1 sec.	1.1 sec.	1.1 sec.
	Bucket lowering time (power down)	1.9 sec.	1.9 sec.	1.9 sec.	1.9 sec.	1.9 sec.

Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

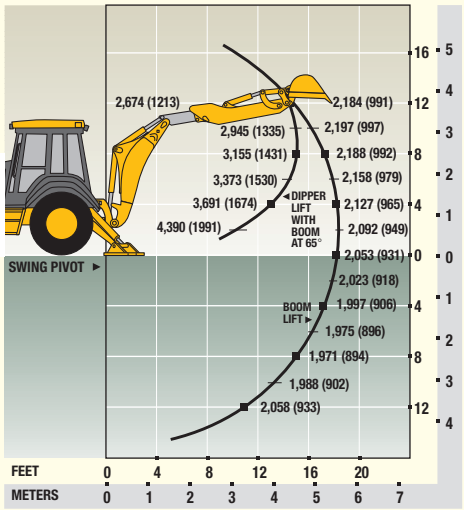
310SG Backhoe with Standard Dipperstick



310SG Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Retracted



310SG Backhoe with 3-ft. 6-in. (1.07 m) Extendable Dipperstick, Extended



310G / 310SG / 410G / 710G Backhoe Loaders

Key: ● Standard equipment ▲ Optional or special equipment

*See your John Deere dealer for further information.

310G	310SG	410G	710G	**Engine**
●				John Deere Model 4045D – 4.5 liter, 70 SAE net hp naturally aspirated, isolation mounted
▲				John Deere Model 4045T – 4.5 liter, 80 SAE net hp turbocharged, isolation mounted
	●			John Deere Model 4045T – 4.5 liter, 86 SAE net hp turbocharged, isolation mounted
		●		John Deere Model 4045T – 4.5 liter, 92 SAE net hp turbocharged, isolation mounted
			●	John Deere Model 6068T – 6.8 liter, 118 SAE net hp turbocharged, isolation mounted
●	●	●	●	Vertical spin-on engine oil filter
●	●	●	●	Vertical spin-on fuel filter with water separator
▲	▲	●	●	Vertical spin-on secondary fuel filter
●	●	●	●	Oil-to-water engine oil cooler
●	●	●	●	Antifreeze, –34°F (–37°C)
●	●	●	●	Coolant recovery tank
●	●	●	●	Serpentine belt with automatic belt tensioner
●	●	●	●	Suction-type cooling fan
●	●	●	●	Enclosed safety fan guard
	▲	▲	▲	High ambient temperature engine cooling
●	●	●	●	Dual-element dry-type air cleaner with evacuator valve and prescreener
●	●	●	●	Muffler, underhood with curved-end exhaust stack
	▲	▲	▲	Chrome exhaust extension
▲	▲	▲	▲	Electric ether starting aid
▲	▲	▲	▲	Engine coolant heater, 1,000 watts
				Power Train
●	▲			Collar-shift transmission with torque converter: Fully synchronized four forward, four reverse speeds / Isolation mounted to mainframe
	●	●	●	Powershift transmission: Torque converter with electrically actuated twist grip F-N-R in 1st through 4th gears
●	●	●	●	Transmission oil cooler
●	●	●	●	Vertical spin-on transmission filter
●	●	●	●	Electric forward-neutral-reverse control lever with neutral safety switch interlock
●	●	●	●	Electric clutch cutoff on gearshift and loader levers
●	●	●	●	Differential lock, electric foot-actuated
●	●	●	●	Planetary final drives
●	●	●	●	Power-assisted hydraulic service brakes (conform to SAE J1473): Inboard, wet multi-disc, self adjusting and self equalizing
●	●	●	●	Parking/emergency brake with electric switch control (conforms to SAE J1473): Spring applied, hydraulically released wet multi-disc / Independent of service brakes
●	●	●	●	Hydrostatic power steering with emergency manual mode
●	●	●	●	Non-powered front axle
▲				Mechanical-front-wheel-drive: Electric on/off control / Drive-shaft guard / Sealed axle
	▲	▲	▲	Mechanical-front-wheel-drive with limited-slip differential: Electric on/off control / Drive-shaft guard / Sealed axle
●	●			11L-15 F3 front tires
▲	▲	●		11L-16 F3 front tires
▲				12-16.5 traction front tires
	▲	▲		12.5/80-18 traction front tires
		▲	▲	14.5/75-16.1 F3 front tires
●	●			16.9-24 R4 rear tires
▲				17.5L-24 R4 rear tires
▲	▲	●		19.5L-24 R4 rear tires
		▲		21L-24 R4 rear tires
			▲	15-19.5 SS-1 front tires
			▲	16.5L-16.1 L-1 front tires
			●	21L-28 R4 rear tires
			▲	20.5-25 L-2 rear tires
▲	▲	▲	▲	Rear wheel spacers for use with chains
				Backhoe
●				Backhoe with standard dipperstick, 14-ft. 3-in. digging depth
	●			Backhoe with standard dipperstick, 14-ft. 6-in. digging depth
		●		Backhoe with standard dipperstick, 15-ft. 10-in. digging depth
			●	Backhoe with standard dipperstick, 18-ft. 2-in. digging depth

310G	310SG	410G	710G	**Backhoe *(continued)***
●	●	●	●	Two-lever (Deere) backhoe controls
▲	▲	▲	▲	Three-lever (Case) backhoe controls
▲	▲	▲		Four-lever (Ford) backhoe controls
▲	▲	▲	▲	SAE excavator two-lever backhoe controls
●	●	●	●	Backhoe transport lock lever
●	●	●	●	Swing lock pin stored in operator's station
●	●	●	●	Stabilizer valve with two-direction anti-drift valves
●	●	●	●	Pivoting stabilizers with reversible pads
	▲			Extended stabilizers*
▲	▲	▲	▲	Stabilizer cylinder guards
●	●	●	●	Less bucket, with bucket pins
▲	▲	▲		Standard-duty backhoe bucket with lift loops
▲	▲	▲	▲	Heavy-duty backhoe bucket with lift loops
	▲	▲		Severe-duty backhoe bucket with lift loops
▲	▲	▲	▲	Backhoe coupler for "C," "D," "E," and "G" Series John Deere buckets, Case buckets, and Cat buckets
▲	▲			Extendable dipperstick, 3-ft. 6-in. extension
		▲		Extendable dipperstick, 4-ft. extension
			▲	Extendable dipperstick, 5-ft. extension
▲	▲	▲	▲	Auxiliary backhoe valve for swingers, thumbs, etc.
▲	▲	▲	▲	Auxiliary backhoe valve for hammers, compactors
▲	▲	▲		Auxiliary backhoe plumbing for hammers, compactors
▲	▲	▲	▲	Auxiliary backhoe plumbing for swingers, thumbs, etc.
▲	▲	▲	▲	SAE-controlled load-lowering device valves
				Loader
●	●	●	●	Hydraulic self leveling
●	●	●	●	Return-to-dig feature
●	●	●	●	Single-lever control with electric clutch cutoff switch
●	●	●	●	Bucket-level indicator
●	●	●	●	Loader boom service lock
▲	▲	▲	▲	Ride control
▲	▲	▲	▲	Auxiliary loader hydraulics with two-lever control
▲	▲	▲		Hydraulic coupler for buckets, forks, etc.
			▲	Loader front coupler*
●	●	●	●	Less bucket, with bucket pins
▲				Heavy-duty loader bucket with lift loops, pre-punched for bolt-on cutting edge
▲	▲	▲	▲	Heavy-duty loader buckets with bolt-on cutting edges, skid plates, and lift loops
▲	▲	▲	▲	Multipurpose loader buckets with bolt-on cutting edges, skid plates, and lift loops
				Hydraulic System
●				28-gpm (106 L/min.) gear pump, open-center system
	●			36-gpm (136 L/min.) tandem gear pump, open-center system
		●		42-gpm (159 L/min.) axial piston pump, PCLS system
			●	52-gpm (197 L/min.) axial piston pump, PCLS system
●	●	●	●	Independent hydraulic reservoir
●	●	●		Swing-down hydraulic oil cooler
●	●	●	●	"O"-ring face seal connectors
●	●	●	●	10-micron vertical spin-on filter
				Electrical
●	●	●	●	12-volt system
●	●	●	●	65-amp alternator
●	●	●		Single battery with 190-min. reserve capacity and 950 CCA
▲	▲	▲	●	Dual batteries with 380-min. reserve capacity and 1,900 CCA
●	●	●	●	Positive terminal battery cover
●	●	●	●	Blade-type multi-fused circuits
●	●	●	●	By-pass start safety cover on starter
				Lights
●	●	●	●	Four halogen driving/work lights, 32,500 candlepower each (two front and two rear)
▲	▲	▲	▲	Six additional halogen work lights, 32,500 candlepower each (two front, two rear, and two side)
●	●	●	●	Two front and two rear turn signal/flashing
●	●	●	●	Two rear stop and tail
●	●	●	●	Two rear reflectors
▲	▲	▲	▲	Rotating beacon

310G	310SG	410G	710G	**Operator's Station**
●	●	●	●	Modular-design ROPS/FOPS canopy with molded roof (conforms to SAE J1040): Isolation mounted
●	●	●	●	Left and right access
●	●	●	●	Slip-resistant steps and ergonomically located handholds
	●	●		Molded floor mat
	●	●	●	Headliner
●	●	●	●	Coat hook
●	●	●	●	12-volt outlets (2)
●	●	●	●	Built-in beverage holders
●	●	●	●	Built-in Operator's Manual storage compartment with manual
●	●	●	●	Interior rearview mirror
▲	▲	▲	▲	Outside rearview mirrors
●	●	●	●	Hand throttle with fuel-economy setting at 2,100 rpm
●	●	●	●	Suspended foot throttle
	▲	▲	▲	Tilt steering
●	●	●	●	Horn
●	●	●	●	Key start switch with electric fuel shutoff
●	●	●		Engine coolant temperature gauge, illuminated electronic, with audible warning
●	●	●		Oil temperature gauge, illuminated electronic, with audible warning
●	●	●	●	Fuel gauge, illuminated electronic
●	●	●		Digital display of engine hours, engine rpm, and system voltage
●	●	●	●	Monitor system with audible and visual warnings: Engine air restriction indicator / Engine oil pressure indicator with audible warning / Hydraulic filter restriction indicator / Parking brake on/off indicator with audible warning / Seat belt indicator / Low brake pressure
●	●	●	●	Non-suspension vinyl swivel seat without armrests
▲	▲	▲	▲	Suspension vinyl swivel seat with armrests and lumbar support
▲	▲	▲	▲	Suspension fabric swivel seat with armrests and lumbar support
▲	▲	▲		Air suspension vinyl swivel seat with armrests and lumbar support
▲	▲	▲		Air suspension fabric swivel seat with armrests and lumbar support
●	●	●	●	2-in. seat belt with retractors
▲	▲	▲	▲	3-in. seat belt with retractors
▲	▲	▲	▲	Cab: Headliner, dome light, left and right cab doors, tinted safety glass, one rear and one front windshield wiper, fresh air intake heater/defroster/pressurizer (40,000-Btu/hr. [11.7 kW] heater), and 65-amp alternator standard / Front windshield washer, air conditioning (26,000-Btu/hr. [7.6 kW] output and CFC-free R134a refrigerant), 95-amp alternator, and AM/FM/weatherband radio optional / 12-volt outlets (3)
				Overall Vehicle
●	●	●	●	One-piece unitized construction mainframe
●	●	●	●	Vehicle tiedowns, two front and one rear
●	●	●	●	Remote grease bank for front axle
●	●	●		Rigid-mounted front bumper
▲	▲	▲		400-lb. (181 kg) front counterweight
▲	▲	▲		650-lb. (295 kg) front counterweight
▲	▲	▲		900-lb. (408 kg) front counterweight
			●	1,070-lb. (486 kg) front counterweight
▲	▲	▲		1,150-lb. (522 kg) front counterweight
▲	▲	▲		1,400-lb. (635 kg) front counterweight
			▲	1,770-lb. (804 kg) front counterweight
●	●	●		Fuel tank, 36 gal. (136 L), ground-level fueling
			●	Fuel tank, 44 gal. (166 L), ground-level fueling
●	●	●	●	Two-position easy-tilt hood
▲	▲	▲	▲	Front grille screen
●	●	●	●	Vandal protection for instrument panel, engine hood, toolbox, hydraulic reservoir, radiator, and fuel tank
●	●	●	●	Reverse warning alarm: Switchable to 97 dB(A) or 111 dB(A)
●	●	●	●	Dent-resistant full-coverage rear fenders
▲	▲	▲	▲	Front fenders*
▲	▲	▲	▲	SMV emblem
▲	▲	▲	▲	Rental decal kit
▲	▲	▲	▲	Special color paint*

JOHN DEERE

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 70 020, using No. 2-D fuel at 35 API gravity. No derating is required up to 5,000-ft. (1500 m) altitude for the 310G and up to 10,000-ft. (3050 m) for the 310G with optional altitude-compensating turbocharger, the 310SG, the 410G, and the 710G. Gross power is without cooling fan.

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on a 310G unit with 17.5L-24, 10 PR R4 rear tires, 11L-15, 8 PR F3 front tires, 1.00-cu. yd. (0.76 m^3) loader bucket, and 24-in. x 6.5-cu. ft. (610 mm x 0.18 m^3) backhoe bucket; a 310SG unit with 19.5L-24, 8 PR R4 rear tires, 11L-16, 12 PR F3 front tires, 1.12-cu. yd. (0.86 m^3) loader bucket, and 24-in. x 7.5-cu. ft. (610 mm x 0.21 m^3) backhoe bucket; a 410G unit with 19.5L-24, 10 PR R4 rear tires, 11L16, 12 PR F3 front tires, 1.30-cu. yd. (1.00 m^3) loader bucket, and 24-in. x 7.5-cu. ft. (610 mm x 0.21 m^3) backhoe bucket; and a 710G unit with 21L-28, 14 PR rear tires, 14.5/75-16.1, 10 PR F3 front tires, 1.62-cu. yd. (1.24 m^3) loader bucket, 24-in. x 11.1-cu. ft. (610 mm x 0.31 m^3) backhoe bucket.

SAFETY. live with it

DKA310G Litho in U.S.A. (03-01)