

310G 310SG



Engine	310G	310SG
Type.....	John Deere 4045D, naturally aspirated standard / John Deere 4045T, turbocharged optional; certified to EPA Tier 2 emissions	John Deere 4045T, turbocharged; certified to EPA Tier 2 emissions
Net peak power (ISO9249)		
4045D.....	73 hp (54.5 kW) @ 2,000 rpm	N/A
4045T.....	78 hp (58.2 kW) @ 2,000 rpm	91 hp (67.8 kW) @ 2,000 rpm
Net peak torque (ISO9249)		
4045D.....	216 lb.-ft. (293 Nm) @ 1,000 rpm	N/A
4045T.....	250 lb.-ft. (339 Nm) @ 1,400 rpm	276 lb.-ft. (374 Nm) @ 1,400 rpm
Torque rise		
4045D.....	28 percent	N/A
4045T.....	30 percent	36 percent

Transmission

Four-speed, helical cut gear, collar-shift transmission synchronized in all gears with hydraulic reverser (optional full-power-shifted transmission on 310SG)

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
Torque converter, single stage, dual phase with 2.63:1 stall ratio.....	11 in. (280 mm)		11 in. (280 mm)	

Capacities

Fuel tank (with ground level fueling).....	36 gal. (136 L)	36 gal. (136 L)
Hydraulic system.....	24 gal. (91 L)	24 gal. (91 L)
Engine coolant.....	17 qt. (16 L)	17 qt. (16 L)
Engine oil including filter.....	9 qt. (8.5 L) naturally aspirated or 13.7 qt. (13 L) turbocharged	13.7 qt. (13 L)
Torque converter and transmission.....	16 qt. (15 L)	16 qt. (15 L)
Rear axle.....	4.2 gal. (16 L)	4.2 gal. (16 L)
Mechanical-front-wheel-drive axle.....	2 gal. (7.6 L)	2 gal. (7.6 L)

Steering

Non-powered front axle (Carraro)		
Curb-turning radius with brakes.....	11 ft. 9 in. (3.57 m)	11 ft. 9 in. (3.57 m)
Without brakes.....	13 ft. 3 in. (4.04 m)	13 ft. 3 in. (4.04 m)
Bucket clearance circle with brakes.....	31 ft. 6 in. (9.61 m)	31 ft. 6 in. (9.61 m)
Without brakes.....	34 ft. 7 in. (10.55 m)	34 ft. 7 in. (10.55 m)
Steering wheel turns, lock to lock.....	3.1	3.1
Mechanical-front-wheel-drive axle		
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, lock to lock.....	2.9	2.9
Axle oscillations stop to stop, both axles.....	22 deg.	22 deg.

Axle Ratings

	Standard	Mechanical-front-wheel drive	Rear	Standard	Mechanical-front-wheel drive	Rear
Static.....	31,530 lb. (14 300 kg)	24,250 lb. (11 000 kg)	28,660 lb. (13 000 kg)	31,530 lb. (14 300 kg)	24,250 lb. (11 000 kg)	28,660 lb. (13 000 kg)
Dynamic.....	12,570 lb. (5700 kg)	9,260 lb. (4200 kg)	15,430 lb. (7000 kg)	12,570 lb. (5700 kg)	9,260 lb. (4200 kg)	15,430 lb. (7000 kg)
Ultimate.....	57,980 lb. (26 300 kg)	57,100 lb. (25 900 kg)	67,460 lb. (30 600 kg)	57,980 lb. (26 300 kg)	57,100 lb. (25 900 kg)	67,460 lb. (30 600 kg)

Hydraulic System**310G****310SG**

System	open center	open center
Pressure		
Backhoe.....	3,625 psi (25 000 kPa)	3,625 psi (25 000 kPa)
Loader	2,900 psi (20 000 kPa)	3,625 psi (25 000 kPa)
Flow @ 2,200 rpm.....	28 gpm (106 L/min.)	36.6 gpm (139 L/min.)
Backhoe.....	28 gpm (106 L/min.)	36.6 gpm (139 L/min.)
Loader	28 gpm (106 L/min.)	28 gpm (106 L/min.)

SAE Operating Weights

Standard.....	12,800 lb. (5806 kg)	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, mechanical-front-wheel drive with tires, and extendable dipperstick		
Counterweights (2) 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)
Front loader coupler adds	630 lb. (286 kg)	630 lb. (286 kg)

Cylinders

	<i>Bore</i>	<i>Stroke</i>	<i>Rod</i>	<i>Bore</i>	<i>Stroke</i>	<i>Rod</i>
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)	29.29 in. (744 mm)	1.97 in. (50 mm)	3.54 in. (90 mm)	29.29 in. (744 mm)	1.97 in. (50 mm)
Backhoe boom (1).....	4.33 in. (110 mm)	32.32 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)	21.77 in. (552.9 mm)	2.48 in. (63 mm)	4.53 in. (115 mm)	23.74 in. (603 mm)	2.48 in. (63 mm)
Backhoe bucket (1).....	3.15 in. (80 mm)	35.1 in. (891.5 mm)	1.97 in. (50 mm)	3.54 in. (90 mm)	31.9 in. (810 mm)	2.20 in. (56 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)	41.81 in. (1062 mm)	1.26 in. (32 mm)	2.76 in. (70 mm)	41.81 in. (1062 mm)	1.57 in. (40 mm)
Backhoe stabilizer (2).....	3.15 in. (80 mm)	19.69 in. (500 mm)	1.97 in. (50 mm)	3.94 in. (100 mm)	19.69 in. (500 mm)	1.97 in. (50 mm)
Steering						
Non-powered axle (1).....	2.56 in. (65 mm)	8.39 in. (213 mm)	1.42 in. (36 mm)	2.56 in. (65 mm)	8.39 in. (213 mm)	1.42 in. (36 mm)
Mechanical-front-wheel drive (1).....	2.56 in. (65 mm)	8.27 in. (210 mm)	1.50 in. (38 mm)	2.56 in. (65 mm)	8.27 in. (210 mm)	1.50 in. (38 mm)

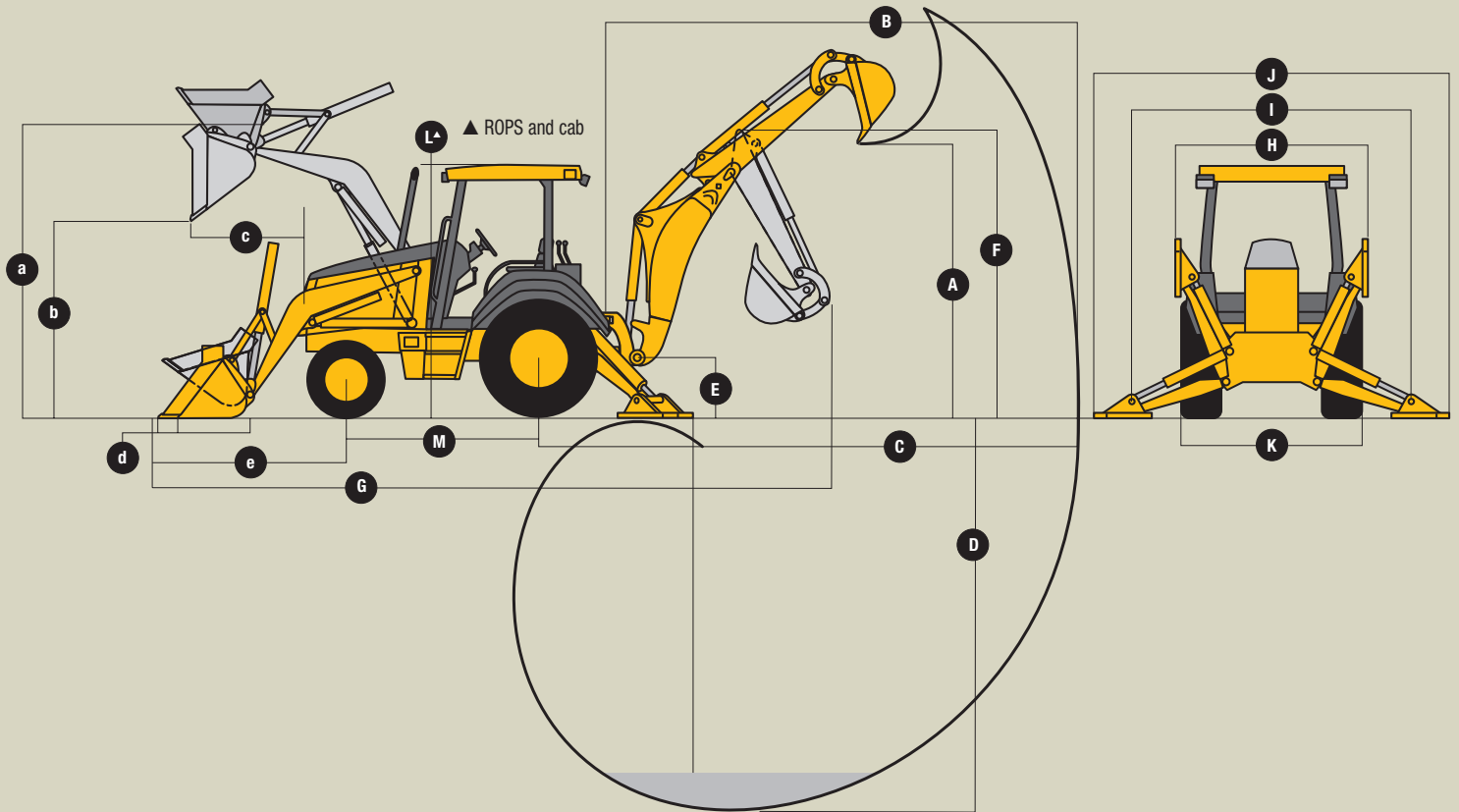
Backhoe Performance

Bucket range	12–30 in. (305–762 mm)	12–36 in. (305–914 mm)
With standard backhoe		
Digging force, bucket cylinder.....	11,106 lb. (49.4 kN)	11,990 lb. (53.3 kN)
With heavy-duty cylinder option.....		15,236 lb. (67.7 kN)
Digging force, crowd cylinder.....	7,006 lb. (31.2 kN)	8,090 lb. (36.0 kN)
Bucket rotation	190 degrees	190 degrees

Loader Performance

Bucket range	1.00–1.25 cu. yd. (0.76–0.96 m ³)	1.18–1.32 cu. yd. (0.91–1.01 m ³)
	<i>1.00-cu. yd. (0.76 m³)</i>	<i>1.25-cu. yd. (0.96 m³)</i>
	<i>Heavy-Duty Long Lip</i>	<i>Heavy-Duty Long Lip</i>
Breakout force	8,500 lb. (38.0 kN)	10,210 lb. (45.4 kN)
Lifting capacity, full height	6,200 lb. (2812 kg)	7,340 lb. (3332 kg)

310G/310SG Backhoe Loaders



Backhoe Dimensions

	310G		310SG	
	<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick Extended*</i>	<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick Extended*</i>
A Loading height, truck loading position.....	10 ft. 11 in. (3.33 m)	13 ft. 11 in. (4.24 m)	11 ft. 3 in. (3.43 m)	14 ft. 1 in. (4.29 m)
B Reach from center of swing pivot.....	17 ft. 10 in. (5.44 m)	21 ft. 5 in. (6.53 m)	18 ft. 3 in. (5.56 m)	21 ft. 11 in. (6.68 m)
C Reach from center of rear axle.....	21 ft. 4 in. (6.50 m)	24 ft. 11 in. (7.59 m)	21 ft. 9 in. (6.63 m)	25 ft. 4 in. (7.72 m)
D Maximum digging depth.....	14 ft. 3 in. (4.34 m)	17 ft. 11 in. (5.46 m)	14 ft. 6 in. (4.42 m)	18 ft. 5 in. (5.61 m)
E Ground clearance, minimum.....	12 in. (305 mm)	12 in. (305 mm)	13 in. (330 mm)	13 in. (330 mm)
F Transport height.....	11 ft. 3 in. (3.43 m)	11 ft. 2 in. (3.40 m)	11 ft. 6 in. (3.51 m)	11 ft. 5 in. (3.48 m)
G Overall length, transport.....	23 ft. 3 in. (7.09 m)	23 ft. 3 in. (7.09 m)	23 ft. 6 in. (7.16 m)	23 ft. 6 in. (7.16 m)
H 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)	7 ft. 2 in. (2.18 m)
I Stabilizer spread – operating.....	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
J 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)	11 ft. 7 in. (3.53 m)
K Width over tires.....	82.9 in. (2.11 m)	82.9 in. (2.11 m)	84.6 in. (2.18 m)	84.6 in. (2.18 m)
L Height to tops of ROPS.....	9 ft. (2.74 m)	9 ft. (2.74 m)	9 ft. 2 in. (2.79 m)	9 ft. 2 in. (2.79 m)
M Length from axle to axle.....	82.7 in. (2100 mm)	82.7 in. (2100 mm)	82.7 in. (2100 mm)	82.7 in. (2100 mm)

*Backhoe specifications are with 24-in. x 6.5-cu. ft. (610 mm x 0.18 m³) bucket for the 310G and with 24-in. x 7.5-cu. ft. (610 mm x 0.21 m³) bucket for the 310SG.

Loader Dimensions

a Height to bucket hinge pin, maximum.....	11 ft. 1 in. (3.38 m)	11 ft. 2 in. (3.40 m)
b Dump clearance, bucket at 45 degrees.....	8 ft. 10 in. (2.69 m)	8 ft. 2 in. (2.59 m)
c Reach at full height, bucket at 45 degrees.....	30.9 in. (785 mm)	36.0 in. (911 mm)
d Digging depth below ground, bucket level.....	6.3 in. (160 mm)	5.8 in. (147 mm)
e Length from front axle centerline to bucket cutting edge.....	80 in. (2030 mm)	80 in. (2030 mm)
Raising time to full height.....	4.9 sec.	5.5 sec.
Bucket dump time at maximum height.....	1.3 sec.	1.2 sec.
Bucket lowering time (power down).....	2.5 sec.	2.2 sec.