

670G/GP

Engine		670G/GP		
Manufacturer and Model	John Deere PowerTech™ PSX 9.0L	John Deere PowerTech™ Plus 9.0L	John Deere PowerTech™ 6.8L	John Deere PowerTech™ 6.8L
Non-Road Emissions Standard	EPA Interim Tier 4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA	EPA Tier 2/EU Stage II	EPA Tier 2/EU Stage II
Cylinders	6	6	6	6
Displacement	9.0L (548 cu. in.)	9.0L (548 cu. in.)	9.0L (548 cu. in.)	6.8L (414 cu. in.)
Net Power				
Gear 1	121 kW (162 hp)	118 kW (158 hp)	115 kW (154 hp)	115 kW (154 hp)
Gear 2	125 kW (168 hp)	121 kW (162 hp)	120 kW (161 hp)	120 kW (161 hp)
Gear 3	134 kW (180 hp)	129 kW (173 hp)	129 kW (173 hp)	129 kW (173 hp)
Gear 4	143 kW (192 hp)	138 kW (185 hp)	132 kW (177 hp)	132 kW (177 hp)
Gear 5	151 kW (203 hp)	148 kW (198 hp)	134 kW (179 hp)	134 kW (179 hp)
Gear 6	155 kW (208 hp)	153 kW (205 hp)	138 kW (185 hp)	138 kW (185 hp)
Gear 7	158 kW (212 hp)	153 kW (205 hp)	138 kW (185 hp)	138 kW (185 hp)
Gear 8	164 kW (220 hp)	157 kW (210 hp)	138 kW (185 hp)	138 kW (185 hp)
Net Peak Torque	1101 Nm (812 lb.-ft.)	1124 Nm (829 lb.-ft.)	848 Nm (625 lb.-ft.)	848 Nm (625 lb.-ft.)
Net Torque Rise	68%	77%	45%	45%
Aspiration	Series turbocharged, charge-air cooled	Turbocharged, charge-air cooled	Turbocharged, charge-air cooled	Turbocharged, charge-air cooled
Lubrication	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler
Air Cleaner with Restriction Indicator	Dual element, dry	Dual element, dry	Dual element, dry	Dual element, dry
Cooling		Cooling-on-demand, hydraulic-driven, variable-speed fan drive to optimize fuel consumption; auto-reversing fan to keep coolers clean; swing-out rear fan door and foldout or sliding coolers for easy cleaning of all cooling components		
Engine Coolant, Extended Life, Rating	-37 deg. C (-34 deg. F)			
Powertrain		Direct-drive John Deere PowerShift Plus™, modulated shift-on-the-go, Event-Based Shifting (EBS), inching pedal; independent transmission reservoir with separate filtration and cooling system with 117-L/min. (31 gpm) gear pump		
Transmission		Direct-drive John Deere PowerShift Plus™, modulated shift-on-the-go, Event-Based Shifting (EBS), inching pedal; independent transmission reservoir with separate filtration and cooling system with 117-L/min. (31 gpm) gear pump		
Gears				
Forward	8			
Reverse	8			
Maximum Travel Speeds		<i>With no tire slip at 2,180 rpm, 14.00-R24 tires</i>		
Shift Lever Position 1	4.0 km/h (2.5 mph)			
Shift Lever Position 2	5.6 km/h (3.5 mph)			
Shift Lever Position 3	7.7 km/h (4.8 mph)			
Shift Lever Position 4	10.9 km/h (6.8 mph)			
Shift Lever Position 5	16.4 km/h (10.2 mph)			
Shift Lever Position 6	23.2 km/h (14.4 mph)			
Shift Lever Position 7	32.3 km/h (20.1 mph)			
Shift Lever Position 8	45.5 km/h (28.3 mph)			
Front Axle		Heavy-duty welded fabrication		
Oscillation (total)	32 deg.			
Wheel Lean Angle (each direction)	20 deg.			
Differentials		Spiral bevel; hydraulically actuated, clutch type can be applied on-the-go; selectable manual or automatic differential lock		
Steering (all models include steering wheel)		All-hydraulic power-frame articulation for maneuverability and productivity; crab steering reduces side drift, positions tandems on firm ground, and increases side-slope stability; return-to-straight control included in Grade Pro option		
Turning Radius (front steer and articulation)	7.21 m (23 ft. 8 in.)			
Articulation (both right and left)	22 deg.			
Final Drives		Inboard-mounted planetary sealed in cooled, filtered oil		
Drive-Chain Pitch	51 mm (2 in.)			
Brakes		Foot-controlled, hydraulically operated, multiple wet-disc brakes sealed in pressurized, cooled, filtered oil; both independent systems effective on all 4 tandem wheels		
Primary and Secondary Brakes	Hydraulically actuated, inboard of tandem pivot, self-adjusting, sealed in cooled and filtered oil, multi-disc (ISO 3450)			
Parking Brake	Automatically spring applied, hydraulically released, oil cooled, self-adjusting (ISO 3450)			



Hydraulics		670G/GP
Closed-center, pressure-compensated load-sensing (PCLS), variable-displacement piston pump, O-ring face-seal fittings		
Maximum Pump Flow	212 L/min. (56 gpm)	
Maximum System Pressure	18 961 kPa (2,750 psi)	
Pump Displacement	90 cm ³ (5.5 cu. in.)	
Blade Function		
All-hydraulic, industry-standard lever placement of blade-function controls; includes float position; 7 discrete saddle positions		
Blade Range		
Lift Above Ground	490 mm (19.3 in.)	
Blade Side Shift (right or left)	683 mm (26.9 in.)	
Pitch at Ground Line		
Forward	42 deg.	
Back	5 deg.	
Shoulder Reach Outside Wheels (frame straight, right or left)	2083 mm (6 ft. 10 in.)	
Bank Cut Angle (right or left)	90 deg.	
Productivity		
Blade Pull (maximum weight [21 228 kg (46,800 lb.)], 0.9 coefficient of traction)	12 800 kg (28,220 lb.)	
Electrical		
Solid-state load center and sealed-switch module		
Voltage	24 volt	
Number of Batteries	2	
Battery Capacity	1,400 CCA	
Reserve Capacity	440 min.	
Amp-Hour Rating	224 amp-hour	
Alternator Rating	100, 130, or 150 amp	
Lights	Driving lights; 2 high- and 2 low-beam halogen headlights; front and rear LED turn signals and marker lights; LED brake and hazard warning lights	
Mainframe		
Type	Welded box construction	
Width (minimum)	307 mm (12.1 in.)	
Height (minimum)	307 mm (12.1 in.)	
Thickness		
Side	16 mm (0.63 in.)	
Top and Bottom Plate	23 mm (0.89 in.)	
Modulus		
Minimum Vertical Section	1445 cm ³ (88 cu. in.)	
Average Vertical Section at Saddle	2245 cm ³ (137 cu. in.)	
Draft Frame (drawbar)		
Welded box construction machined for flatness with double ball-and-socket pivot connection equipped with quick-change replaceable wear inserts		
Circle		
Welded construction, heat-treated, machined for flatness, equipped with quick-change replaceable wear inserts		
Circle Diameter	1524 mm (60 in.)	
Rotation	360 deg.	
Drive	Hydraulic motor and worm gear with positive lock	
Circle Side Shift (right and left)	787 mm (31 in.)	
Moldboard		
High-strength, pre-stressed for higher strength, wear-resistant, high-carbon steel and reversible end bits; blade side-shift wear system includes quick-change replaceable wear inserts and quick-adjust jackscrew system		
Length	3.66 m (12 ft. 0 in.)	
Height (measured along arc, including cutting edge)	610 mm (24 in.)	
Thickness	22 mm (0.88 in.)	
Cutting Edge		
Dura-Max™ through-hardened steel edge		
Thickness	16 mm (0.62 in.)	
Width	152 mm (6 in.)	

Scarifiers		
	670G/GP	
	<i>Front</i>	<i>Mid-mount</i>
Type	V-type toolbar with manual 2-pitch positions, with hydraulic float	Radial linkage, with NeverGrease™ pin joints; V-type toolbar with manual 3-pitch positions, with hydraulic float
Width of Cut	1.20 m (4 ft. 0 in.)	1.19 m (3 ft. 11 in.)
Number of Shanks/Teeth	5 (maximum capacity 9)	11
Lift Above Ground	589 mm (23.2 in.)	335 mm (13.2 in.)
Maximum Penetration	335 mm (13.2 in.)	325 mm (12.8 in.)
Shank		
Spacing	146 mm (5.75 in.)	117 mm (4.6 in.)
Size	25 x 76 mm (1 x 3 in.)	25 x 76 mm (1 x 3 in.)
Front Lift Group (Balderson-style)		
Parallel linkage, mechanical pins, and hydraulic float		
Lift		
Above Ground (top of tube)	1864 mm (73.4 in.)	
Range	988 mm (38.9 in.)	
Rear Ripper/Scarifier		
Parallel linkage, with NeverGrease pin joints, hydraulic float, and integrated hitch		
	<i>Ripper</i>	<i>Scarifier</i>
Width of Cut	2.21 m (7 ft. 3 in.)	2.18 m (7 ft. 2 in.)
Number of Shanks/Teeth	3 (maximum capacity 5)	None standard (maximum capacity 9)
Lift Above Ground	602 mm (23.7 in.)	810 mm (31.9 in.)
Maximum Penetration	426 mm (16.8 in.)	323 mm (12.7 in.)
Shank Size	61.5 x 133 mm (2.42 x 5.25 in.)	25 x 76 mm (1 x 3 in.)
Operator Station		
Low-profile cab with ROPS (ISO 3471-2008) and FOPS (ISO 3449-2005)		
Tires/Wheels		
	<i>14.00-24 on 254-mm (10 in.) Rim</i>	<i>17.5-25 on 356-mm (14 in.) Rim</i>
Wheel Tread on Ground (front and rear)	2.08 m (82 in.)	2.16 m (85 in.)
Overall Width (top of tires, front and rear)	2.49 m (98 in.)	2.64 m (104 in.)
Ground Clearance (front axle, front and rear)	587 mm (23.1 in.)	587 mm (23.1 in.)
Serviceability		
Refill Capacities		
Fuel Tank	416.4 L (110 gal.)	
Cooling System (6.8L engine)	43.9 L (11.6 gal.)	
Engine Oil with Filter (6.8L engine)	23.8 L (6.3 gal.)	
Transmission Fluid (refill)	28.4 L (7.5 gal.)	
Differential Housing	37.9 L (10 gal.)	
Tandem Housings (each)	73.8 L (19.5 gal.)	
Circle Gearbox	5.7 L (1.5 gal.)	
Hydraulic Reservoir	60.6 L (16 gal.)	
Operating Weights		
With Full Fuel Tank, 3.66-m x 610-mm x 22-mm (12 ft. x 24 in. x 0.88 in.) Moldboards with 152-mm x 16-mm (6 in. x 5/8 in.) Cutting Edges, 14.00-24 Bias L2 Tires, and 79-kg (175 lb.) Operator		
	<i>EPA Interim Tier 4/EU Stage IIIB</i>	<i>EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II</i>
Front	4178 kg (9,210 lb.)	4191 kg (9,240 lb.)
Rear	11 798 kg (26,010 lb.)	11 149 kg (24,580 lb.)
Total	15 976 kg (35,220 lb.)	15 340 kg (33,820 lb.)
Typical Operating Weight with Front Push Block, Rear Ripper/Scarifier, and Other Equipment		
Front	5507 kg (12,140 lb.)	5479 kg (12,080 lb.)
Rear	13 698 kg (30,200 lb.)	12 887 kg (28,410 lb.)
Total	19 205 kg (42,340 lb.)	18 366 kg (40,490 lb.)
Maximum Operating Weight	21 228 kg (46,800 lb.)	21 228 kg (46,800 lb.)

Option Weights	670G/GP
Moldboards with Through-Hardened Dura-Max Cutting Edge	
3.66 m x 610 mm x 22 mm (12 ft. x 24 in. x 7/8 in.) with 203-mm x 19-mm (8 in. x 3/4 in.) cutting edge and 16-mm (5/8 in.) hardware	45 kg (99 lb.)
3.66 m x 686 mm x 25 mm (12 ft. x 27 in. x 1 in.) with 203-mm x 19-mm (8 in. x 3/4 in.) cutting edge and 16-mm (5/8 in.) hardware	126 kg (277 lb.)
3.96 m x 686 mm x 25 mm (13 ft. x 27 in. x 1 in.) with 203-mm x 19-mm (8 in. x 3/4 in.) cutting edge and 16-mm (5/8 in.) hardware	180 kg (396 lb.)
4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x 7/8 in.) with 152-mm x 16-mm (6 in. x 5/8 in.) cutting edge and 16-mm (5/8 in.) hardware	105 kg (231 lb.)
4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x 7/8 in.) with 203-mm x 19-mm (8 in. x 3/4 in.) cutting edge and 16-mm (5/8 in.) hardware	157.4 kg (347 lb.)
4.27 m x 686 mm x 25 mm (14 ft. x 27 in. x 1 in.) with 203-mm x 19-mm (8 in. x 3/4 in.) cutting edge and 16-mm (5/8 in.) hardware	251.3 kg (554 lb.)
Extensions, 610 mm (2 ft.) (right or left)	
For Use with 610-mm (24 in.) Moldboards	115.7 kg (255 lb.)
For Use with 686-mm (27 in.) Moldboards	120.2 kg (265 lb.)
Overlay End Bits, Reversible (one pair)	
For 152-mm (6 in.) Cutting Edge	19.5 kg (43 lb.)
For 203-mm (8 in.) Cutting Edge	23.1 kg (51 lb.)
Extended-Wear Circle Wear Inserts	19.5 kg (43 lb.)
Circle-Drive Slip Clutch	9.1 kg (20 lb.)
Moldboard Impact-Absorption System	43.1 kg (95 lb.)
Ripper/Scarifier, Rear Mounted with Hitch and Ripper Shanks (3)	1139 kg (2,510 lb.)
Scarifier Shanks with Teeth (9 for rear ripper/scarifier)	68 kg (150 lb.)
Ripper Shanks and Teeth (2)	63 kg (139 lb.)
Rear Counterweight with Integral Rear Hitch	727.1 kg (1,603 lb.)
Rear Hitch	54.4 kg (120 lb.)
Push Block, Front Scarifier	1338 kg (2,950 lb.)
Front Mount with Teeth (5)	831.4 kg (1,833 lb.)
Mid-Mount with Teeth (11)	1481 kg (3,265 lb.)
Front Lift Group (Balderson-style)	762.9 kg (1,682 lb.)

Machine Dimensions	
A Height to Top of Cab	3.18 m (10 ft. 5 in.)
A! Height to Top of Full-Height Cab	3.40 m (11 ft. 2 in.)
B Height to Top of Exhaust (6.8L engine)	3.09 m (10 ft. 2 in.)
C Height to Top of Blade-Lift Cylinders	3.05 m (10 ft. 0 in.)
D Tandem Axle Spacing	1.54 m (5 ft. 1 in.)
E Blade Base	2.57 m (8 ft. 5 in.)

Option Weights (continued)	670G/GP
Tires	
14.00-24, 12 PR G2	0 kg (0 lb.)
17.5-25, 12 PR G2/L2	114.3 kg (252 lb.)
14.00-R24, Radial, G2/L2 General Purpose	220.4 kg (486 lb.)
14.00-R24, Radial, G2/L2 Snow	261.3 kg (576 lb.)
17.5-R25, Radial, L2 General Purpose	272.2 kg (600 lb.)
17.5-R25, Radial, G2/L2 Snow	315.7 kg (696 lb.)
17.5-R25, Radial, G3/L3 General Purpose	362.0 kg (798 lb.)
One-Piece Rims	
229 mm x 610 mm (9 in. x 24 in.)	0 kg (0 lb.)
330 mm x 635 mm (13 in. x 25 in.)	65.3 kg (144 lb.)
Multi-Piece Rims	
254 mm x 610 mm (10 in. x 24 in.)	179.6 kg (396 lb.)
356 mm x 635 mm (14 in. x 25 in.)	266.7 kg (588 lb.)
Fenders	
Front	76.7 kg (169 lb.)
Rear	140.6 kg (310 lb.)
Cab	
Low with Opening Front and Side Windows	14.5 kg (32 lb.)
Tall with Fixed Front and Openable Side Windows	58.5 kg (129 lb.)
With Opening Front and Openable Side Windows	73.0 kg (161 lb.)
Premium Air-Suspension, Heated Seat with Adjustable Arm- and Headrests	12.7 kg (28 lb.)
Coolant Heater	4.1 kg (9 lb.)
Fast-Fill Fuel System	13.6 kg (30 lb.)
Quick Service	10.9 kg (24 lb.)
Sound-Absorption Package (machines equipped with Tier 3/Stage IIIA and Tier 2/Stage II engines only)	14.1 kg (31 lb.)
Secondary Steering	26.3 kg (58 lb.)
Beacon Bracket	8.2 kg (18 lb.)
Fire Extinguisher	14.5 kg (32 lb.)
Lighting Packages	
10 Halogen Lights	4.53 kg (10 lb.)
16 Halogen Lights	7.25 kg (16 lb.)
18 Halogen Lights	8.2 kg (18 lb.)
High-Front Light Bar for Snowplowing	20 kg (44 lb.)
24- to 12-Volt, 30-Amp Converter	1.4 kg (3 lb.)
Auxiliary Hydraulic Control Valve Section and Controls	6.8 kg (15 lb.)
Hydraulics for Front-Mounted Equipment	8.6 kg (19 lb.)
Wipers/Washers, Lower-Front Windows	4.1 kg (9 lb.)

Machine Dimensions (continued)	
F Wheelbase	6.16 m (20 ft. 3 in.)
G Overall Length	8.89 m (29 ft. 2 in.)
H Overall Length with Scarifier	9.69 m (31 ft. 9 in.)
I Overall Length with Push Block and Ripper	9.99 m (32 ft. 9 in.)
I! Overall Length with Scarifier and Ripper	10.59 m (34 ft. 9 in.)

For Overall Width see Tires/Wheels on page 18.

