

770G/GP

Engine	770G/GP		
Manufacturer and Model	John Deere PowerTech™ PSX 9.0L	John Deere PowerTech™ Plus 9.0L	John Deere PowerTech™ 9.0L
Non-Road Emissions Standard	EPA Interim Tier 4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA	EPA Tier 2/EU Stage II
Cylinders	6	6	6
Displacement	9.0L (548 cu. in.)	9.0L (548 cu. in.)	9.0L (548 cu. in.)
Net Power			
Gear 1	127 kW (170 hp)	123 kW (165 hp)	123 kW (165 hp)
Gear 2	129 kW (173 hp)	125 kW (167 hp)	125 kW (167 hp)
Gear 3	141 kW (189 hp)	137 kW (184 hp)	137 kW (184 hp)
Gear 4	152 kW (204 hp)	148 kW (198 hp)	148 kW (198 hp)
Gear 5	163 kW (219 hp)	157 kW (210 hp)	157 kW (210 hp)
Gear 6	175 kW (235 hp)	164 kW (220 hp)	164 kW (220 hp)
Gear 7	180 kW (241 hp)	168 kW (225 hp)	168 kW (225 hp)
Gear 8	183 kW (245 hp)	172 kW (230 hp)	172 kW (230 hp)
Net Peak Torque	1235 Nm (911 lb.-ft.)	1227 Nm (905 lb.-ft.)	1227 Nm (905 lb.-ft.)
Net Torque Rise	57%	63%	63%
Aspiration	Series 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
Air Cleaner with Restriction Indicator	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			
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 **770G/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 cm³ (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 [21 772 kg (48,000 lb.)], 0.9 coefficient of traction) 13 150 kg (28,990 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 1770 cm³ (108 cu. in.)

Average Vertical Section at Saddle 2245 cm³ (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		770G/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>	<i>550/65R25 on 432-mm (17 in.) Rim</i>
Wheel Tread on Ground (front and rear)		2.08 m (82 in.)	2.16 m (85 in.)	2.21 m (87 in.)
Overall Width (top of tires, front and rear)		2.49 m (98 in.)	2.64 m (104 in.)	2.77 m (109 in.)
Ground Clearance (front axle, front and rear)		587 mm (23.1 in.)	587 mm (23.1 in.)	612 mm (24.1 in.)
Serviceability				
Refill Capacities				
Fuel Tank		416.4 L (110 gal.)		
Cooling System		57.9 L (15.3 gal.)		
Engine Oil with Filter		28.0 L (7.4 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, 14R24 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		4305 kg (9,490 lb.)		4314 kg (9,510 lb.)
Rear		12 084 kg (26,640 lb.)		11 440 kg (25,220 lb.)
Total		16 388 kg (36,130 lb.)		15 753 kg (34,730 lb.)
Typical Operating Weight with Front Push Block, Rear Ripper/Scarifier, and Other Equipment				
Front		5570 kg (12,280 lb.)		5605 kg (12,358 lb.)
Rear		13 825 kg (30,480 lb.)		13 175 kg (29,047 lb.)
Total		19 396 kg (42,760 lb.)		18 781 kg (41,405 lb.)
Maximum Operating Weight		21 772 kg (48,000 lb.)		21 772 kg (48,000 lb.)

Option Weights	770G/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.)
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 19-mm (3/4 in.) hardware	260.8 kg (575 lb.)
Extensions, 610 mm (2 ft.) (right or left)	
For Use with 610-mm (24 in.) Moldboards	98.9 kg (218 lb.)
For Use with 686-mm (27 in.) Moldboards	103.4 kg (228 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	1338 kg (2,950 lb.)
Scarifier	
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 ¹	Height to Top of Full-Height Cab	3.40 m (11 ft. 2 in.)
B	Height to Top of Exhaust	3.13 m (10 ft. 3 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)	770G/GP
Tires	
14.00-24, 12 PR G2	- 220.4 kg (- 486 lb.)
17.5-25, 12 PR G2/L2	- 106.1 kg (- 234 lb.)
14.00-R24, Radial, G2/L2 General Purpose	0 kg (0 lb.)
14.00-R24, Radial, G2/L2 Snow	40.8 kg (90 lb.)
17.5-R25, Radial, L2 General Purpose	51.7 kg (114 lb.)
17.5-R25, Radial, G2/L2 Snow	95.3 kg (210 lb.)
17.5-R25, Radial, G3/L3 General Purpose	141.5 kg (312 lb.)
550/65R25 XLD70 G3/L3 Radial, General Purpose	495.3 kg (1,092 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.)
432 mm x 635 mm (17 in. x 25 in.)	321.1 kg (708 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 Side Windows	73 kg (161 lb.)
Deluxe Cloth, Air-Suspension 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 ¹	Overall Length with Scarifier and Ripper	10.59 m (34 ft. 9 in.)

For Overall Width see Tires/Wheels on page 26.

