G-SERIES 4WD

MOTOR GRADERS

620G/GP / 670G/GP / 770G/GP / 870G/GP

CHOOSE HOW YOU WORK

MORE CONTROL OPTIONS

+

FACTORY EQUIPPED WITH OPTIONAL SMARTGRADE™


DEERE
MORE WAYS TO GET
MORE DONE.

TAKING GRADING PERFORMANCE

TO THE NEXT LEVEL.

Our motor graders have earned a reputation for exceptional control and grading precision without a lot of extra effort. Inspired by thoughts and ideas from you, our customers, our latest G-Series Graders take it to the next level. With more choices, including our Customer Advocate Group-tested dual-joystick controls. Expanded grade-control system options, including SmartGrade models with technology integrated directly into the machine to deliver more accurate grading results. And a smaller, more economical machine, the 620G. Existing models boast even more performance, along with a host of proven features to help you boost productivity and maximize uptime while lowering daily operating costs.

WHEN YOU ASK, WE LISTEN: THE 620G GRADER.

Our competitively priced 620G offers contractors, townships, and municipalities the grader they've been asking for, with just the right amount of power and fuel savings of up to 10 percent over our larger models. It's equipped — not stripped — with many of the same features found on its larger siblings, including a superior cooling package and ground-level service.

RIGHT ON THE MONEY

ENHANCED PERFORMANCE, MORE OPTIONS, LOWER COST.

Boasting exceptional balance, improved performance specs, and more maximum capability, G-Series Graders help you do your level best — whether you're a major contractor, working for the county, or running a land-leveling crew.

Unlimited grade control

Industry-first John Deere SmartGrade Motor Graders are fully integrated and calibrated from the factory, arriving at your jobsite ready to work. In-cylinder position sensing allows the machine to stay on grade no matter what blade pitch, articulation angle, or circle offset you're running.

Improved horsepower and torque

Increased engine horsepower, torque, and blade pull produce generous power and lugging ability, to deliver more power to the ground, easily pull through tough spots, or tackle steep hills.

The right power for the job

G-Series Graders deliver the right amount of power, when you need it. Horsepower and torque are optimized for each gear to maximize performance no matter your application.

Save fuel with Eco mode

When engaged, Eco mode reduces engine rpm in gears 1–5, optimizing fuel usage and decreasing operating costs by up to 10 percent.

Smarter from day one

Integration into the SmartGrade cabin and structures helps shield key grade-control components such as wire harnesses and sensors from damage and theft. And without external grade-control components to impede maneuverability, final-grade machines can be involved earlier and more effectively in site development.

INDUSTRY-FIRST SMARTGRADE™ CONFIGURATIONS

STANDOUT FEATURE

FREEDOM OF CHOICE

WITHOUT LIFTING A FINGER.

SEISMIC SHIFT

Gate-less shifter builds upon proven Deere Event-Based Shifting technology to allow operators to directly move the machine from forward to reverse, in any gear, at any time. It's included on all G and Grade Pro (GP) models with fingertip controls.

CONTROL FREAK

An available option on all GP models (not available on G machines), Deere dual-joystick controls require significantly less wrist motion to articulate the motor grader than competitive joystick controls.

AT YOUR COMMAND

Eight armrest-mounted, fingertip-actuated controls, including lever steer, are arranged in the industry-standard pattern on each side of the standard steering wheel. No extra levers are required for grade control. Instead, knob-integrated push buttons provide convenient, fingertip activation.

CHOICE OF CONTROLS:

- DUAL-JOYSTICK CONTROLS (GP MODELS)
- FINGERTIP ARMREST MOUNTED (GP MODELS)
- CONVENTIONAL LEVER OPERATED (G MODELS)
- STEERING WHEEL (STANDARD ON ALL MODELS)

Our G-Series Graders give you more choice of how work gets done. On our GP models opt for dual-joystick controls or choose state-of-the-art fingertip armrest controls. Or have the best of both worlds — a field kit allows you to easily swap between the two. Our G models offer conventional lever-operated controls. And based on customer feedback, all models still have a steering wheel. The choice is yours.

Joystick option

Our dual-joystick controls provide intuitive control with minimal hand motion during direction changes and gear shifts. By eliminating the twisting wrist motion or uncomfortable combinations common to other joystick systems, dual-joystick controls help reduce operator fatigue.

Fine control with less fatigue

Articulation and circle-rotate functions are actuated using proportional roller switches instead of twisting the controller.

Suite deal

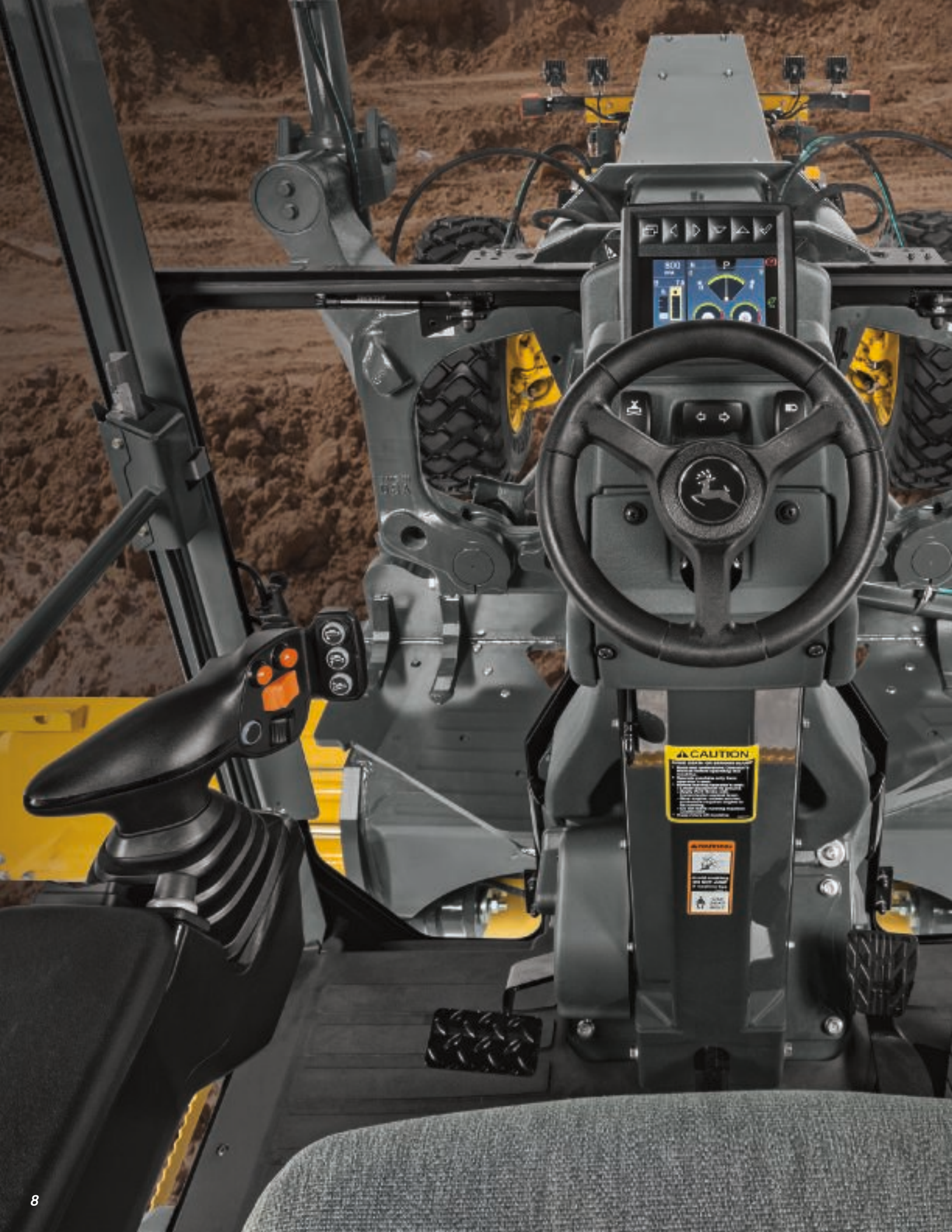
SmartGrade models include a standard Automation Suite (optional on GP models) that streamlines the number of controls needed to perform common tasks. **Auto-Articulation** combines front and rear steering. Use **Blade Flip** to automatically mirror the circle to a preset angle. **Machine Presets** allow operators to activate multiple machine functions, features, and positions with the press of a single button.

Return-to-straight

At the touch of a button, return-to-straight automatically straightens an articulated frame, for quicker work cycles.

Automated cross-slope

Dual-joystick controls and finger-tip armrest controls both come equipped with cross-slope and are ready to run the grade-control system of your choice. Automated cross-slope simplifies holding a consistent slope by reducing operation to a single lever. It's a GP feature that helps veteran operators be their best and new operators get up to speed more quickly.


CAUTION

SIGHT FOR SORE EYES

ENVISION MORE PRODUCTIVITY.

With their exceptional visibility, an LCD high-visibility monitor, and smooth gate-less shifting, it's easy to see why G-Series Graders have become a favorite on a wide range of jobsites.

Exceptional view

All-around visibility is virtually unobstructed, with a clear view to the heel and toe, and behind the moldboard. You can even see the area beneath the front axle, for increased awareness of oncoming obstacles.

Store your stuff

Generous storage space includes numerous overhead compartments, plus a place for a beverage, cooler, cell phone, and other carry-ons.

Lighting the way

Courtesy lighting stays on after machine shutdown and then automatically turns itself off, making it safer to exit the cab after dark, while conserving battery power.

Easy-access park brake

Sealed-switch module provides push-button control of key machine functions, including the parking brake, for more convenient access and easier operation.

LCD hi-vis monitor streamlines access to vital data

LCD hi-vis monitor provides intuitive, push-button access to vital machine information displayed via simple, easy-to-navigate icons and menus.

SO MUCH TO DO, *SO LITTLE TIME*

Uptime isn't everything. It's the only thing. Which is why G-Series Graders are loaded with durability-enhancing advantages that help deliver years of trouble-free service.

Robust, easy-to-clean cooling package

Cooling package eliminates stacked coolers. Together with the hinged swing-out fan, access to the cores is quick and cleaning is easy.

Auto shutdown reduces fuel use and wear

Auto shutdown turns off the engine after an operator-determined period of idling. Saves fuel and reduces wear on engine, transmission, and hydraulic components.

Fuel-efficient, cool-on-demand fan with reversing option

Variable-speed hydraulically driven fan runs only as fast or as often as necessary to keep things cool. Helps conserve power and fuel, while reducing noise. Standard reversible fan (optional on 620G/GP) speeds core cleanout in high-debris applications.

Multipurpose for your multiple purposes

Redesigned heavy-duty front and rear axles combined with increased maximum operating weights enable more versatility and better blade pull for utilizing attachments.

Get valuable insight with

JOHN DEERE WORKSIGHT™

The John Deere WorkSight suite of construction technology delivers **Productivity Solutions** to help you get more done, more efficiently. The in-base, five-year JDLink™ telematics subscription provides machine location, utilization data, and alerts to help you maximize productivity and efficiency. Other productivity solutions including grade-management and payload-weighing options are also available.

To maximize uptime and lower costs, JDLink telematics also enables **John Deere Connected Support.™** John Deere's centralized Machine Health Monitoring Center analyzes data from thousands of connected machines, identifies trends, and develops actions to prevent downtime called Expert Alerts. Dealers use Expert Alerts to proactively address conditions that may otherwise likely lead to downtime. Your dealer can also monitor machine health and leverage remote diagnostics and programming capability to further diagnose problems and even update machine software without a time-consuming trip to the jobsite.

GET IT DONE WITH EASE.

Fast, simple ground-level access

All daily service points, including fueling and diesel exhaust fluid (DEF), are grouped on the left side for quick and convenient ground-level access. On the right side, maintenance personnel will appreciate the easy-access engine oil, fuel, hydraulic, transmission, and differential filter bank.

Optional premium circle

This industry-leading design features a fully sealed bearing and pinion, reducing operating costs while delivering 40-percent more torque and 15-percent more speed than a traditional circle. Contractors will benefit from improved accuracy when using a grade-control system by no longer having to compensate for wear in the circle. This is especially impactful when coupled with the innovative John Deere SmartGrade™ system.

620G / GP SPECIFICATIONS

Engine	620G/GP		
Manufacturer and Model	John Deere PowerTech™ PSS 6.8L	John Deere PowerTech™ Plus 6.8L	John Deere PowerTech™ 6.8L
Non-Road Emission Standard	EPA Final Tier 4/EU Stage V	EPA Tier 3/EU Stage IIIA	EPA Tier 2/EU Stage II
Cylinders	6	6	6
Displacement	6.8L (414 cu. in.)	6.8L (414 cu. in.)	6.8L (414 cu. in.)
Net Engine Power			
Gear 1	112 kW (150 hp)	112 kW (150 hp)	112 kW (150 hp)
Gear 2	123 kW (165 hp)	123 kW (165 hp)	123 kW (165 hp)
Gear 3	134 kW (180 hp)	130 kW (175 hp)	130 kW (175 hp)
Gear 4	142 kW (190 hp)	134 kW (180 hp)	134 kW (180 hp)
Gear 5	149 kW (200 hp)	142 kW (190 hp)	138 kW (185 hp)
Gear 6	153 kW (205 hp)	146 kW (195 hp)	138 kW (185 hp)
Gear 7	157 kW (210 hp)	149 kW (200 hp)	138 kW (185 hp)
Gear 8	160 kW (215 hp)	149 kW (200 hp)	138 kW (185 hp)
Net Peak Torque	1005 Nm (750 lb.-ft.)	915 Nm (682 lb.-ft.)	831 Nm (620 lb.-ft.)
Net Torque Rise	40%	37%	44%
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			
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	*No tire slip at 2,180 rpm, 14.0-R24 tires*		*No tire slip at 2,180 rpm, 14.0-R24 tires*
Gear 1	4.0 km/h (2.5 mph)	Gear 5	16.4 km/h (10.2 mph)
Gear 2	5.6 km/h (3.5 mph)	Gear 6	23.2 km/h (14.4 mph)
Gear 3	7.7 km/h (4.8 mph)	Gear 7	32.3 km/h (20.1 mph)
Gear 4	10.9 km/h (6.8 mph)	Gear 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 (GP) option		
Turning Radius (front steer and articulation)	7.21 m (284 in.) (23 ft. 8 in.)		
Articulation (both right and left)	22 deg.		
Final Drives	Inboard-mounted planetary sealed in cooled, filtered oil		
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			
Type	Closed-center, pressure-compensated load-sensing (PCLS), variable-displacement piston pump		
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.)		

620G / GP *SPECIFICATIONS*

Blade Function	**620G/GP**	
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 (82.0 in.) (6 ft. 10 in.)	
Bank Cut Angle (right or left)	90 deg.	
Blade Pull		
At Maximum Operating Weight	14 091 kg (31,066 lb.)	
Electrical		
Solid-state load center and sealed-switch module	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*
Voltage	24 volt	24 volt
Number of Batteries	2	2
Battery Capacity	1,400 CCA	950 CCA
Reserve Capacity	440 min.	190 min.
Amp-Hour Rating	224 amp-hour	110 amp-hour
Alternator Rating		
Base	130 amp	100 amp
Optional	200 amp	130 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 and double ball-and-socket pivot connection		
Circle		
Welded construction, heat-treated, and machined for flatness		
	Standard Circle	*Premium Circle*
Circle Diameter	1524 mm (60 in.)	1524 mm (60 in.)
Rotation	360 deg.	360 deg.
Surface	Quick-change bronze or nylon wear inserts	Sealed and lubricated roller element slewing bearing
Pinion/Ring-Gear Connection	Adjustable backlash and open for serviceability	No adjustment; fully sealed and lubricated
Drive	Hydraulic motor and worm gear with positive lock	Hydraulic motor and worm gear with positive lock
Slip Clutch	Option	Standard
Circle Side Shift (right and left)	787 mm (31 in.)	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		
Base Length	3.66 m (144 in.) (12 ft. 0 in.)	
Height (measured along arc, including cutting edge)	610 mm (24 in.)	
Thickness	22 mm (0.88 in.)	

620G/GP

Cutting Edge	**620G/GP**		
Dura-Max™ through-hardened steel edge			
Thickness	16 mm (0.62 in.)		
Width	152 mm (6 in.)		
Scarifiers			
	Front	*Mid-mount*	
Type	V-type toolbar with 2-pitch positions and hydraulic float	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch positions and hydraulic float	
Width of Cut	1.20 m (48 in.) (4 ft. 0 in.)	1.19 m (46.7 in.) (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 Depth	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			
	Ripper	*Scarifier*	
Width of Cut	2.21 m (87.2 in.) (7 ft. 3 in.)	2.18 m (86 in.) (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 Depth	426 mm (16.8 in.)	323 mm (12.7 in.)	
Force			
Penetration	9,302 kg (20,508 lb.)	—	
Pry-Out	11,253 kg (24,808 lb.)	—	
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			
	13x24 on 254-mm (10 in.) Rim	*14R24 on 254-mm (10 in.) Rim*	*17.5R25 on 356-mm (14 in.) Rim*
Wheel Tread on Ground	2.08 m (82 in.)	2.08 m (82.0 in.)	2.16 m (85.0 in.)
Overall Width	2.49 m (98 in.)	2.49 m (98.0 in.)	2.64 m (104.0 in.)
Ground Clearance (front axle)	557 mm (21.9 in.)	587 mm (23.1 in.)	587 mm (23.1 in.)
Serviceability			
Refill Capacities	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*	
Fuel Tank	416.5 L (110 gal.)	303 L (80 gal.)	
Diesel Exhaust Fluid (DEF) Tank	22.5 L (6 gal.)	—	
Cooling System	51.0 L (13.5 gal.)	44.0 L (11.6 gal.)	
Engine Oil With Filter	31.5 L (8.3 gal.)	26.0 L (6.9 gal.)	
Transmission Fluid	28.4 L (7.5 gal.)	28.4 L (7.5 gal.)	
Differential Housing	38.0 L (10 gal.)	38.0 L (10 gal.)	
Tandem Housings (each)	74.0 L (19.5 gal.)	74.0 L (19.5 gal.)	
Circle Gearbox	5.7 L (1.5 gal.)	5.7 L (1.5 gal.)	
Hydraulic Reservoir	60.5 L (16 gal.)	53.0 L (14 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.) Moldboard With 152-mm x 16-mm (6 in. x ⅝ in.) Cutting Edges, 14-24 Bias L2 Tires, and 79-kg (175 lb.) Operator	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*	
Front	4193 kg (9,243 lb.)	4222 kg (9,308 lb.)*	
Rear	11 577 kg (25,523 lb.)	10 681 kg (23,548 lb.)*	
Total	15 770 kg (34,767 lb.)	14 904 kg (32,857 lb.)*	
Typical Operating Weight With Front Push Block, Rear Ripper/Scarifier, and Other Equipment			
Front	4940 kg (10,890 lb.)	5096 kg (11,235 lb.)	
Rear	13 386 kg (29,510 lb.)	12 439 kg (27,423 lb.)	
Total	18 325 kg (40,400 lb.)	17 535 kg (38,658 lb.)	
Maximum Operating Weight	22 680 kg (50,000 lb.)	22 680 kg (50,000 lb.)	
**With 13-24 Bias L2 tires.*			

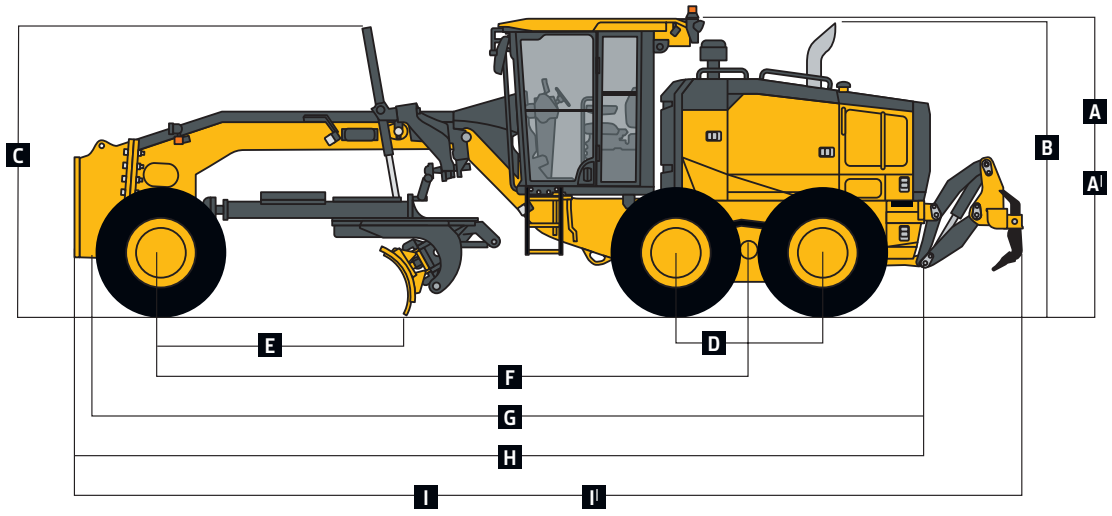
Option Weights	620G/GP
Moldboards With Through-Hardened Dura-Max Cutting Edge	
3.66 m x 610 mm x 22 mm (12 ft. x 24 in. x ⅞ in.) with 152-mm x 16-mm (6 in. x ⅝ in.) cutting edge and 16-mm (⅝ in.) hardware	0 kg (0 lb.)
3.66 m x 610 mm x 22 mm (12 ft. x 24 in. x ⅞ in.) with 203-mm x 19-mm (8 in. x ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	45 kg (99 lb.)
4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x ⅞ in.) with 152-mm x 16-mm (6 in. x ⅝ in.) cutting edge and 16-mm (⅝ in.) hardware	105 kg (231 lb.)
4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x ⅞ in.) with 203-mm x 19-mm (8 in. x ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	157.4 kg (347 lb.)
Extensions, 610 mm (2 ft.) (right or left)	
For Use With 610-mm (24 in.) Moldboards	116 kg (255 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 kg (51 lb.)
Circle-Drive Slip Clutch	9 kg (20 lb.)
Circle	
Standard	0 kg (0 lb.)
Premium	289 kg (638 lb.)
Moldboard Impact-Absorption System	43 kg (95 lb.)
Ripper, 3 Shank, No Scarifier	1052 kg (2,319 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.)
Rear Counterweight With Integral Rear Hitch	727 kg (1,603 lb.)
Rear Hitch	54.4 kg (120 lb.)
Push Block, Front	907 kg (2,000 lb.)
Scarifier	
Front Mount With Teeth (5)	831 kg (1,833 lb.)
Mid-Mount With Teeth (11)	1481 kg (3,265 lb.)
Front Lift Group (Balderson-style)	763 kg (1,682 lb.)

Machine Dimensions	
A Height to Top of Cab	3.18 m (10 ft. 5 in.)
A[I] Height to Top of Full-Height Cab	3.40 m (11 ft. 2 in.)
B Height to Top of Exhaust	3.10 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)*	620G/GP
Tires	
13.00-24, 12 PR G2	–79 kg (–174 lb.)
14.00-24, 12 PR G2	0 kg (0 lb.)
17.5-25, 12 PR G2/L2	114 kg (252 lb.)
14.00-R24, Radial, G2/L2 General Purpose	220 kg (486 lb.)
14.00-R24, Radial, G2/L2 Snow	261 kg (576 lb.)
17.5-R25, Radial, L2 General Purpose	272 kg (600 lb.)
17.5-R25, Radial, G2/L2 Snow	316 kg (696 lb.)
17.5-R25, Radial, G3/L3 General Purpose	362 kg (798 lb.)
1-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 kg (144 lb.)
Multi-Piece Rims	
254 mm x 610 mm (10 in. x 24 in.)	180 kg (396 lb.)
356 mm x 635 mm (14 in. x 25 in.)	267 kg (588 lb.)
Fenders	
Front	99 kg (218 lb.)
Rear	141 kg (310 lb.)
Low Cab With Opening Front and Side Windows	14.5 kg (32 lb.)
Premium Air-Suspension, Heated Seat With Adjustable Arm- and Headrests	13 kg (28 lb.)
Coolant Heater	4 kg (9 lb.)
Quick Service	11 kg (24 lb.)
Sound-Absorption Package (machines equipped with Tier 3/Stage IIIA and Tier 2/Stage II engines only)	14 kg (31 lb.)
Secondary Steering	26 kg (58 lb.)
Beacon Bracket	8 kg (18 lb.)
Fire Extinguisher	14.5 kg (32 lb.)
Lighting Packages	
10 Halogen Lights	4.5 kg (10 lb.)
18 Halogen Lights	8 kg (18 lb.)
18 LED Lights	7 kg (16 lb.)
High-Front Light Bar for Snowplowing	20 kg (44 lb.)
Auxiliary Hydraulic Control Valve Section and Controls	7 kg (15 lb.)
Hydraulics for Front-Mounted Equipment	9 kg (19 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[I] Overall Length With Scarifier and Ripper	10.59 m (34 ft. 9 in.)

For Overall Width see Tires/Wheels on page 16.



670G / GP SPECIFICATIONS

Engine	670G/GP		
Manufacturer and Model	John Deere PowerTech™ PSS 9.0L	John Deere PowerTech™ Plus 9.0L	John Deere PowerTech™ 9.0L
Non-Road Emission Standard	EPA Final Tier 4/EU Stage V	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 Engine Power			
Gear 1	134 kW (180 hp)	134 kW (180 hp)	134 kW (180 hp)
Gear 2	142 kW (190 hp)	142 kW (190 hp)	142 kW (190 hp)
Gear 3	153 kW (205 hp)	149 kW (200 hp)	149 kW (200 hp)
Gear 4	157 kW (210 hp)	153 kW (205 hp)	153 kW (205 hp)
Gear 5	164 kW (220 hp)	157 kW (210 hp)	157 kW (210 hp)
Gear 6	168 kW (225 hp)	164 kW (220 hp)	164 kW (220 hp)
Gear 7	172 kW (230 hp)	168 kW (225 hp)	168 kW (225 hp)
Gear 8	175 kW (235 hp)	172 kW (230 hp)	172 kW (230 hp)
Net Peak Torque	1225 Nm (913 lb.-ft.)	1196 Nm (892 lb.-ft.)	1196 Nm (892 lb.-ft.)
Net Torque Rise	56%	56%	56%
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			
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	*No tire slip at 2,180 rpm, 14.0-R24 tires*		*No tire slip at 2,180 rpm, 14.0-R24 tires*
Gear 1	4.0 km/h (2.5 mph)	Gear 5	16.4 km/h (10.2 mph)
Gear 2	5.6 km/h (3.5 mph)	Gear 6	23.2 km/h (14.4 mph)
Gear 3	7.7 km/h (4.8 mph)	Gear 7	32.3 km/h (20.1 mph)
Gear 4	10.9 km/h (6.8 mph)	Gear 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 (GP) option		
Turning Radius (front steer and articulation)	7.21 m (284 in.) (23 ft. 8 in.)		
Articulation (both right and left)	22 deg.		
Final Drives	Inboard-mounted planetary sealed in cooled, filtered oil		
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			
Type	Closed-center, pressure-compensated load-sensing (PCLS), variable-displacement piston pump		
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.)		

670G / GP SPECIFICATIONS

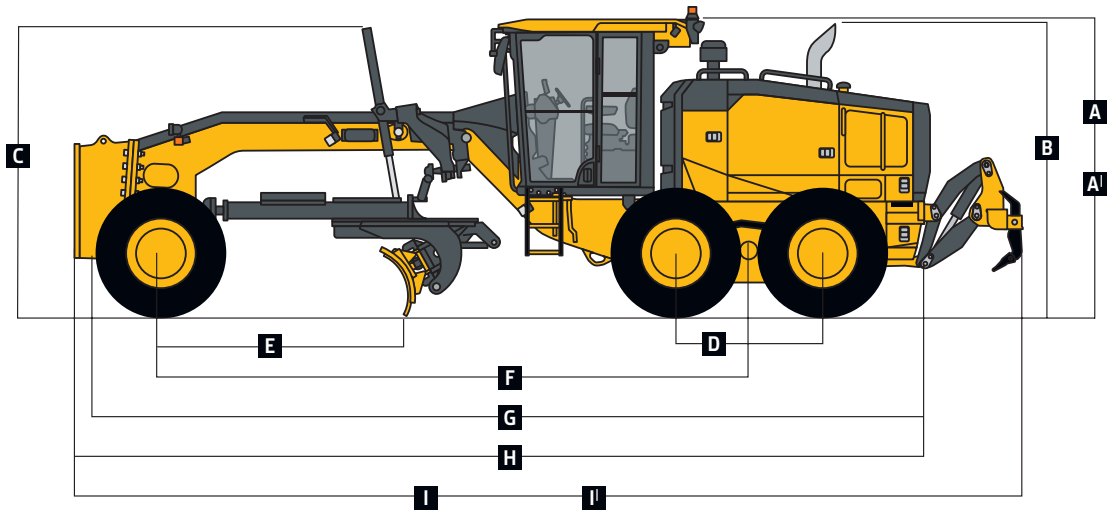
Blade Function	**670G/GP**	
All-hydraulic, industry-standard lever placement of blade-function controls; includes float position; 7 discrete saddle positions		
Blade Range		
Lift Above Ground	490 mm (19.3 in.)	
Blade Side Shift (right or left)	683 mm (26.9 in.)	
Pitch at Ground Line		
Forward	42 deg.	
Back	5 deg.	
Shoulder Reach Outside Wheels (frame straight, right or left)	2083 mm (82.0 in.) (6 ft. 10 in.)	
Bank Cut Angle (right or left)	90 deg.	
Blade Pull		
At Maximum Operating Weight	15 501 kg (34,173 lb.)	
Electrical		
Solid-state load center and sealed-switch module	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*
Voltage	24 volt	24 volt
Number of Batteries	2	2
Battery Capacity	1,400 CCA	1,400 CCA
Reserve Capacity	440 min.	440 min.
Amp-Hour Rating	224 amp-hour	224 amp-hour
Alternator Rating		
Base	130 amp	100 amp
Optional	200 amp	130 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		
Circle		
Welded construction, heat-treated, machined for flatness		
	Standard Circle	*Premium Circle*
Circle Diameter	1524 mm (60 in.)	1524 mm (60 in.)
Rotation	360 deg.	360 deg.
Surface	Quick-change bronze or nylon wear inserts	Sealed and lubricated roller element slewing bearing
Pinion/Ring-Gear Connection	Adjustable backlash and open for serviceability	No adjustment; fully sealed and lubricated
Drive	Hydraulic motor and worm gear with positive lock	Hydraulic motor and worm gear with positive lock
Slip Clutch	Option	Standard
Circle Side Shift (right and left)	787 mm (31 in.)	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		
Base Length	3.66 m (144 in.) (12 ft. 0 in.)	
Height (measured along arc, including cutting edge)	610 mm (24 in.)	
Thickness	22 mm (0.88 in.)	

670G/GP

Cutting Edge	670G/GP	
Dura-Max™ through-hardened steel edge		
Thickness	16 mm (0.62 in.)	
Width	152 mm (6 in.)	
Scarifiers		
	Front	*Mid-mount*
Type	V-type toolbar with 2-pitch positions and hydraulic float	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch positions and hydraulic float
Width of Cut	1.20 m (48 in.) (4 ft. 0 in.)	1.19 m (46.7 in.) (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 Depth	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		
	Ripper	*Scarifier*
Width of Cut	2.21 m (87.2 in.) (7 ft. 3 in.)	2.18 m (86 in.) (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 Depth	426 mm (16.8 in.)	323 mm (12.7 in.)
Force		
Penetration	9526 kg (21,000 lb.)	—
Pry-Out	12 580 kg (27,734 lb.)	—
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		
	14R24 on 254-mm (10 in.) Rim	*17.5R25 on 356-mm (14 in.) Rim*
Wheel Tread on Ground	2.08 m (82.0 in.)	2.16 m (85.0 in.)
Overall Width	2.49 m (98.0 in.)	2.64 m (104.0 in.)
Ground Clearance (front axle)	587 mm (23.1 in.)	587 mm (23.1 in.)
Serviceability		
Refill Capacities	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*
Fuel Tank	416.5 L (110 gal.)	416.5 L (110 gal.)
Diesel Exhaust Fluid (DEF) Tank	22.5 L (6 gal.)	—
Cooling System	55.0 L (14.5 gal.)	48.5 L (12.8 gal.)
Engine Oil With Filter	28.4 L (7.5 gal.)	28.0 L (7.4 gal.)
Transmission Fluid	28.4 L (7.5 gal.)	28.4 L (7.5 gal.)
Differential Housing	38.0 L (10 gal.)	38.0 L (10 gal.)
Tandem Housings (each)	74.0 L (19.5 gal.)	74.0 L (19.5 gal.)
Circle Gearbox	5.7 L (1.5 gal.)	5.7 L (1.5 gal.)
Hydraulic Reservoir	60.5 L (16 gal.)	53.0 L (14 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.) Moldboard With 152-mm x 16-mm (6 in. x ⅝ in.) Cutting Edges, 14-24 Bias L2 Tires, and 79-kg (175 lb.) Operator	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*
Front	4193 kg (9,245 lb.)	4203 kg (9,265 lb.)
Rear	11 807 kg (26,030 lb.)	11 327 kg (24,972 lb.)
Total	16 000 kg (35,275 lb.)	15 530 kg (34,237 lb.)
Typical Operating Weight With Front Push Block, Rear Ripper/Scarifier, and Other Equipment		
Front	5522 kg (12,175 lb.)	5488 kg (12,100 lb.)
Rear	13 708 kg (30,220 lb.)	13 063 kg (28,800 lb.)
Total	19 230 kg (42,395 lb.)	18 552 kg (40,900 lb.)
Maximum Operating Weight	24 948 kg (55,000 lb.)	24 948 kg (55,000 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 ⅞ in.) with 152-mm x 16-mm (6 in. x ⅝ in.) cutting edge and 16-mm (⅝ in.) hardware	0 kg (0 lb.)
3.66 m x 610 mm x 22 mm (12 ft. x 24 in. x ⅞ in.) with 203-mm x 19-mm (8 in. x ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	45 kg (99 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 ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	180 kg (396 lb.)
4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x ⅞ in.) with 152-mm x 16-mm (6 in. x ⅝ in.) cutting edge and 16-mm (⅝ in.) hardware	105 kg (231 lb.)
4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x ⅞ in.) with 203-mm x 19-mm (8 in. x ¾ in.) cutting edge and 16-mm (⅝ 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 ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	251 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 ¾ in.) cutting edge and 19-mm (¾ in.) hardware	261 kg (575 lb.)
Extensions, 610 mm (2 ft.) (right or left)	
For Use With 610-mm (24 in.) Moldboards	116 kg (255 lb.)
For Use With 686-mm (27 in.) Moldboards	120 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 kg (51 lb.)
Heavy-Duty Dual-Input Circle-Drive Gearbox	14 kg (31 lb.)
Circle-Drive Slip Clutch	9 kg (20 lb.)
Circle	
Standard	0 kg (0 lb.)
Premium	289 kg (638 lb.)
Moldboard Impact-Absorption System	43 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 kg (1,603 lb.)
Machine Dimensions	
A Height to Top of Cab	3.18 m (10 ft. 5 in.)
A[I] Height to Top of Full-Height Cab	3.40 m (11 ft. 2 in.)
B Height to Top of Exhaust	3.10 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
Rear Hitch	54.4 kg (120 lb.)
Push Block, Front	1338 kg (2,950 lb.)
Scarifier	
Front Mount With Teeth (5)	831 kg (1,833 lb.)
Mid-Mount With Teeth (11)	1481 kg (3,265 lb.)
Front Lift Group (Balderson-style)	763 kg (1,682 lb.)
Tires	
14.00-24, 12 PR G2	0 kg (0 lb.)
17.5-25, 12 PR G2/L2	114 kg (252 lb.)
14.00-R24, Radial, G2/L2 General Purpose	220 kg (486 lb.)
14.00-R24, Radial, G2/L2 Snow	261 kg (576 lb.)
17.5-R25, Radial, L2 General Purpose	272 kg (600 lb.)
17.5-R25, Radial, G2/L2 Snow	316 kg (696 lb.)
17.5-R25, Radial, G3/L3 General Purpose	362 kg (798 lb.)
1-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 kg (144 lb.)
Multi-Piece Rims	
254 mm x 610 mm (10 in. x 24 in.)	180 kg (396 lb.)
356 mm x 635 mm (14 in. x 25 in.)	267 kg (588 lb.)
Fenders	
Front	99 kg (218 lb.)
Rear	141 kg (310 lb.)
Low Cab With Opening Front and Side Windows	14.5 kg (32 lb.)
Premium Air-Suspension, Heated Seat With Adjustable Arm- and Headrests	13 kg (28 lb.)
Coolant Heater	4 kg (9 lb.)
Quick Service	11 kg (24 lb.)
Sound-Absorption Package (machines equipped with Tier 3/Stage IIIA and Tier 2/Stage II engines only)	14 kg (31 lb.)
Secondary Steering	26 kg (58 lb.)
Beacon Bracket	8 kg (18 lb.)
Fire Extinguisher	14.5 kg (32 lb.)
Lighting Packages	
10 Halogen Lights	4.5 kg (10 lb.)
18 Halogen Lights	8 kg (18 lb.)
18 LED Lights	7 kg (16 lb.)
High-Front Light Bar for Snowplowing	20 kg (44 lb.)
Auxiliary Hydraulic Control Valve Section and Controls	7 kg (15 lb.)
Hydraulics for Front-Mounted Equipment	9 kg (19 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[I] Overall Length With Scarifier and Ripper	10.59 m (34 ft. 9 in.)
For Overall Width see Tires/Wheels on page 20.	



770G / GP SPECIFICATIONS

Engine	770G/GP		
Manufacturer and Model	John Deere PowerTech™ PSS 9.0L	John Deere PowerTech™ Plus 9.0L	John Deere PowerTech™ 9.0L
Non-Road Emission Standard	EPA Final Tier 4/EU Stage V	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 Engine Power			
Gear 1	149 kW (200 hp)	149 kW (200 hp)	149 kW (200 hp)
Gear 2	157 kW (210 hp)	157 kW (210 hp)	157 kW (210 hp)
Gear 3	168 kW (225 hp)	164 kW (220 hp)	164 kW (220 hp)
Gear 4	172 kW (230 hp)	168 kW (225 hp)	168 kW (225 hp)
Gear 5	179 kW (240 hp)	172 kW (230 hp)	172 kW (230 hp)
Gear 6	183 kW (245 hp)	179 kW (240 hp)	179 kW (240 hp)
Gear 7	187 kW (250 hp)	183 kW (245 hp)	183 kW (245 hp)
Gear 8	190 kW (255 hp)	187 kW (250 hp)	187 kW (250 hp)
Net Peak Torque	1314 Nm (980 lb.-ft.)	1288 Nm (961 lb.-ft.)	1288 Nm (961 lb.-ft.)
Net Torque Rise	54%	55%	55%
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			
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	*No tire slip at 2,180 rpm, 14.0-R24 tires*		*No tire slip at 2,180 rpm, 14.0-R24 tires*
Gear 1	4.0 km/h (2.5 mph)	Gear 5	16.4 km/h (10.2 mph)
Gear 2	5.6 km/h (3.5 mph)	Gear 6	23.2 km/h (14.4 mph)
Gear 3	7.7 km/h (4.8 mph)	Gear 7	32.3 km/h (20.1 mph)
Gear 4	10.9 km/h (6.8 mph)	Gear 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 (GP) option		
Turning Radius (front steer and articulation)	7.21 m (284 in.) (23 ft. 8 in.)		
Articulation (both right and left)	22 deg.		
Final Drives	Inboard-mounted planetary sealed in cooled, filtered oil		
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			
Type	Closed-center, pressure-compensated load-sensing (PCLS), variable-displacement piston pump		
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.)		

770G / GP SPECIFICATIONS

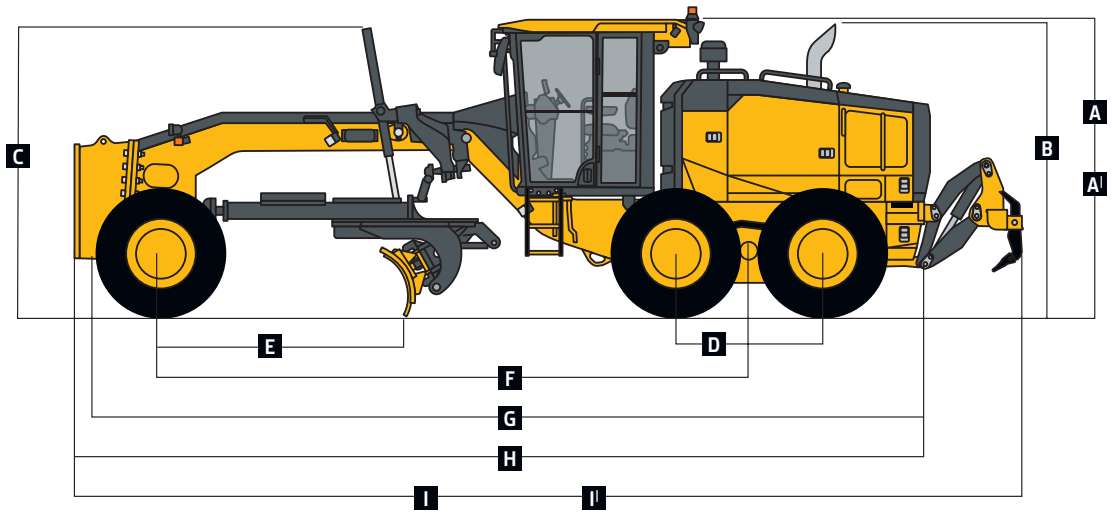
Blade Function	770G/GP	
All-hydraulic, industry-standard lever placement of blade-function controls; includes float position; 7 discrete saddle positions		
Blade Range		
Lift Above Ground	490 mm (19.3 in.)	
Blade Side Shift (right or left)	683 mm (26.9 in.)	
Pitch at Ground Line		
Forward	42 deg.	
Back	5 deg.	
Shoulder Reach Outside Wheels (frame straight, right or left)	2083 mm (82.0 in.) (6 ft. 10 in.)	
Bank Cut Angle (right or left)	90 deg.	
Blade Pull		
At Maximum Operating Weight	15 501 kg (34,173 lb.)	
Electrical		
Solid-state load center and sealed-switch module	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*
Voltage	24 volt	24 volt
Number of Batteries	2	2
Battery Capacity	1,400 CCA	1,400 CCA
Reserve Capacity	440 min.	440 min.
Amp-Hour Rating	224 amp-hour	224 amp-hour
Alternator Rating		
Base	130 amp	100 amp
Optional	200 amp	130 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 cm^3 (108 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		
Circle		
Welded construction, heat-treated, machined for flatness		
	Standard Circle	*Premium Circle*
Circle Diameter	1524 mm (60 in.)	1524 mm (60 in.)
Rotation	360 deg.	360 deg.
Surface	Quick-change bronze or nylon wear inserts	Sealed and lubricated roller element slewing bearing
Pinion/Ring-Gear Connection	Adjustable backlash and open for serviceability	No adjustment; fully sealed and lubricated
Drive	Hydraulic motor and worm gear with positive lock	Hydraulic motor and worm gear with positive lock
Slip Clutch	Option	Standard
Circle Side Shift (right and left)	787 mm (31 in.)	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		
Base Length	3.66 m (144 in.) (12 ft. 0 in.)	
Height (measured along arc, including cutting edge)	610 mm (24 in.)	
Thickness	22 mm (0.88 in.)	

770G/GP

Cutting Edge	770G/GP		
Dura-Max™ through-hardened steel edge			
Thickness	16 mm (0.62 in.)		
Width	152 mm (6 in.)		
Scarifiers			
	Front	*Mid-mount*	
Type	V-type toolbar with 2-pitch positions and hydraulic float	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch positions and hydraulic float	
Width of Cut	1.20 m (48 in.) (4 ft. 0 in.)	1.19 m (46.7 in.) (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 Depth	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			
	Ripper	*Scarifier*	
Width of Cut	2.21 m (87.2 in.) (7 ft. 3 in.)	2.18 m (86 in.) (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 Depth	426 mm (16.8 in.)	323 mm (12.7 in.)	
Force			
Penetration	9616 kg (21,200 lb.)	—	
Pry-Out	12 730 kg (28,066 lb.)	—	
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			
	14R24 on 254-mm (10 in.) Rim	*17.5R25 on 356-mm (14 in.) Rim*	*550/65R25 on 432-mm (17 in.) Rim*
Wheel Tread on Ground	2.08 m (82.0 in.)	2.16 m (85.0 in.)	2.21 m (87.0 in.)
Overall Width	2.49 m (98.0 in.)	2.64 m (104.0 in.)	2.82 m (111.0 in.)
Ground Clearance (front axle)	587 mm (23.1 in.)	587 mm (23.1 in.)	612 mm (24.1 in.)
Serviceability			
Refill Capacities	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*	
Fuel Tank	416.5 L (110 gal.)	416.5 L (110 gal.)	
Diesel Exhaust Fluid (DEF) Tank	22.5 L (6 gal.)	—	
Cooling System	55.0 L (14.5 gal.)	48.5 L (12.8 gal.)	
Engine Oil With Filter	28.4 L (7.5 gal.)	28.0 L (7.4 gal.)	
Transmission Fluid	28.4 L (7.5 gal.)	28.4 L (7.5 gal.)	
Differential Housing	38.0 L (10 gal.)	38.0 L (10 gal.)	
Tandem Housings (each)	74.0 L (19.5 gal.)	74.0 L (19.5 gal.)	
Circle Gearbox	5.7 L (1.5 gal.)	5.7 L (1.5 gal.)	
Hydraulic Reservoir	60.5 L (16 gal.)	53.0 L (14 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.) Moldboard With 152-mm x 16-mm (6 in. x ⅝ in.) Cutting Edges, 14R24 L2 Tires, and 79-kg (175 lb.) Operator	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*	
Front	4320 kg (9,525 lb.)	4330 kg (9,545 lb.)	
Rear	12 095 kg (26,665 lb.)	11 451 kg (25,245 lb.)	
Total	16 416 kg (36,190 lb.)	15 780 kg (34,790 lb.)	
Typical Operating Weight With Front Push Block, Rear Ripper/Scarifier, and Other Equipment			
Front	5588 kg (12,320 lb.)	5625 kg (12,400 lb.)	
Rear	13 837 kg (30,505 lb.)	13 186 kg (29,070 lb.)	
Total	19 425 kg (42,825 lb.)	18 810 kg (41,470 lb.)	
Maximum Operating Weight	24 948 kg (55,000 lb.)	24 948 kg (55,000 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 ⅞ in.) with 152-mm x 16-mm (6 in. x ⅝ in.) cutting edge and 16-mm (⅝ in.) hardware	0 kg (0 lb.)
3.66 m x 610 mm x 22 mm (12 ft. x 24 in. x ⅞ in.) with 203-mm x 19-mm (8 in. x ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	45 kg (99 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 ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	180 kg (396 lb.)
4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x ⅞ in.) with 152-mm x 16-mm (6 in. x ⅝ in.) cutting edge and 16-mm (⅝ in.) hardware	105 kg (231 lb.)
4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x ⅞ in.) with 203-mm x 19-mm (8 in. x ¾ in.) cutting edge and 16-mm (⅝ 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 ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	251 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 ¾ in.) cutting edge and 19-mm (¾ in.) hardware	261 kg (575 lb.)
Extensions, 610 mm (2 ft.) (right or left)	
For Use With 610-mm (24 in.) Moldboards	116 kg (255 lb.)
For Use With 686-mm (27 in.) Moldboards	120 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 kg (51 lb.)
Heavy-Duty Dual-Input Circle-Drive Gearbox	14 kg (31 lb.)
Circle-Drive Slip Clutch	9 kg (20 lb.)
Circle	
Standard	0 kg (0 lb.)
Premium	289 kg (638 lb.)
Moldboard Impact-Absorption System	43 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 kg (1,603 lb.)
Rear Hitch	54.4 kg (120 lb.)
Machine Dimensions	
A Height to Top of Cab	3.18 m (10 ft. 5 in.)
A[I] Height to Top of Full-Height Cab	3.40 m (11 ft. 2 in.)
B Height to Top of Exhaust	3.10 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)*	770G/GP
Push Block, Front	1338 kg (2,950 lb.)
Scarifier	
Front Mount With Teeth (5)	831 kg (1,833 lb.)
Mid-Mount With Teeth (11)	1481 kg (3,265 lb.)
Front Lift Group (Balderson-style)	763 kg (1,682 lb.)
Tires	
14.00-24, 12 PR G2	–220.4 kg (–486 lb.)
17.5-25, 12 PR G2/L2	–106 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.)
1-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	99 kg (218 lb.)
Rear	141 kg (310 lb.)
Low Cab With Opening Front and Side Windows	14.5 kg (32 lb.)
Premium Air-Suspension, Heated Seat With Adjustable Arm- and Headrests	13 kg (28 lb.)
Coolant Heater	4 kg (9 lb.)
Quick Service	11 kg (24 lb.)
Sound-Absorption Package (machines equipped with Tier 3/Stage IIIA and Tier 2/Stage II engines only)	14 kg (31 lb.)
Secondary Steering	26 kg (58 lb.)
Beacon Bracket	8 kg (18 lb.)
Fire Extinguisher	14.5 kg (32 lb.)
Lighting Packages	
10 Halogen Lights	4.5 kg (10 lb.)
18 Halogen Lights	8 kg (18 lb.)
18 LED Lights	7 kg (16 lb.)
High-Front Light Bar for Snowplowing	20 kg (44 lb.)
Auxiliary Hydraulic Control Valve Section and Controls	7 kg (15 lb.)
Hydraulics for Front-Mounted Equipment	9 kg (19 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[I] Overall Length With Scarifier and Ripper	10.59 m (34 ft. 9 in.)
For Overall Width see Tires/Wheels on page 24.	



870G / GP SPECIFICATIONS

Engine	870G/GP		
Manufacturer and Model	John Deere PowerTech™ PSS 9.0L	John Deere PowerTech™ Plus 9.0L	John Deere PowerTech™ 9.0L
Non-Road Emission Standard	EPA Final Tier 4/EU Stage V	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 Engine Power			
Gear 1	168 kW (225 hp)	164 kW (220 hp)	164 kW (220 hp)
Gear 2	175 kW (235 hp)	172 kW (230 hp)	172 kW (230 hp)
Gear 3	187 kW (250 hp)	179 kW (240 hp)	179 kW (240 hp)
Gear 4	190 kW (255 hp)	183 kW (245 hp)	183 kW (245 hp)
Gear 5	198 kW (265 hp)	187 kW (250 hp)	187 kW (250 hp)
Gear 6	201 kW (270 hp)	194 kW (260 hp)	194 kW (260 hp)
Gear 7	205 kW (275 hp)	198 kW (265 hp)	198 kW (265 hp)
Gear 8	209 kW (280 hp)	201 kW (270 hp)	201 kW (270 hp)
Net Peak Torque	1430 Nm (1,066 lb.-ft.)	1330 Nm (991 lb.-ft.)	1330 Nm (991 lb.-ft.)
Net Torque Rise	53%	48%	48%
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			
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 121-L/min. (32 gpm) gear pump		
Gears			
Forward	8		
Reverse	8		
Maximum Travel Speeds	*No tire slip at 2,180 rpm, 17.5-R25 tires*		*No tire slip at 2,180 rpm, 17.5-R25 tires*
Gear 1	3.9 km/h (2.4 mph)	Gear 5	16.7 km/h (10.4 mph)
Gear 2	5.6 km/h (3.5 mph)	Gear 6	23.3 km/h (14.5 mph)
Gear 3	7.9 km/h (4.9 mph)	Gear 7	32.2 km/h (20.0 mph)
Gear 4	10.9 km/h (6.8 mph)	Gear 8	45.0 km/h (28.0 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 (GP) option		
Turning Radius (front steer and articulation)	7.21 m (284 in.) (23 ft. 8 in.)		
Articulation (both right and left)	22 deg.		
Final Drives	Inboard-mounted planetary sealed in cooled, filtered oil		
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			
Type	Closed-center, pressure-compensated load-sensing (PCLS), variable-displacement piston pump		
Maximum Pump Flow	218 L/min. (57.5 gpm)		
Maximum System Pressure	18 961 kPa (2,750 psi)		
Pump Displacement	90 cm^3 (5.5 cu. in.)		

870G / GP *SPECIFICATIONS*

Blade Function	**870G/GP**	
All-hydraulic, industry-standard lever placement of blade-function controls; includes float position; 7 discrete saddle positions		
Blade Range		
Lift Above Ground	452 mm (17.8 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)	2329 mm (91.7 in.) (7 ft. 8 in.)	
Bank Cut Angle (right or left)	90 deg.	
Blade Pull		
At Maximum Operating Weight	15 501 kg (34,173 lb.)	
Electrical		
Solid-state load center and sealed-switch module	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*
Voltage	24 volt	24 volt
Number of Batteries	2	2
Battery Capacity	1,400 CCA	1,400 CCA
Reserve Capacity	440 min.	440 min.
Amp-Hour Rating	224 amp-hour	224 amp-hour
Alternator Rating		
Base	130 amp	100 amp
Optional	200 amp	130 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	30 mm (1.17 in.)	
Modulus		
Minimum Vertical Section	1770 cm^3 (108 cu. in.)	
Average Vertical Section at Saddle	2635 cm^3 (161 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		
	Standard Circle	*Premium Circle*
Circle Diameter	1524 mm (60 in.)	1524 mm (60 in.)
Rotation	360 deg.	360 deg.
Surface	Quick-change bronze or nylon wear inserts	Sealed and lubricated roller element slewing bearing
Pinion/Ring-Gear Connection	Adjustable backlash and open for serviceability	No adjustment; fully sealed and lubricated
Drive	Hydraulic motor and worm gear with positive lock	Hydraulic motor and worm gear with positive lock
Slip Clutch	Option	Standard
Circle Side Shift (right and left)	787 mm (31 in.)	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		
Base Length	4.27 m (168 in.) (14 ft. 0 in.)	
Height (measured along arc, including cutting edge)	686 mm (27 in.)	
Thickness	25 mm (1 in.)	

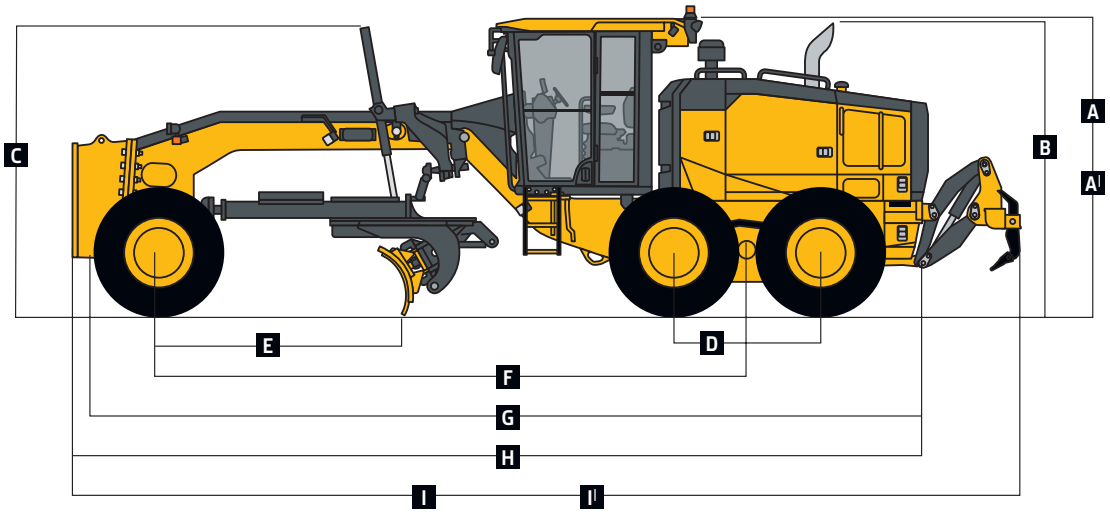
870G/GP

Cutting Edge	870G/GP		
Dura-Max™ through-hardened steel edge			
Thickness	19 mm (0.75 in.)		
Width	203 mm (8 in.)		
Scarifiers			
	Front	*Mid-mount*	
Type	V-type toolbar with 2-pitch positions and hydraulic float	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch positions and hydraulic float	
Width of Cut	1.20 m (48 in.) (4 ft. 0 in.)	1.19 m (46.7 in.) (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 Depth	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			
	Ripper	*Scarifier*	
Width of Cut	2.21 m (87.2 in.) (7 ft. 3 in.)	2.18 m (86 in.) (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 Depth	426 mm (16.8 in.)	323 mm (12.7 in.)	
Force			
Penetration	10 240 kg (22,574 lb.)	—	
Pry-Out	13 623 kg (30,034 lb.)	—	
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			
	17.5R25 on 356-mm (14 in.) Rim	*550/65R25 on 432-mm (17 in.) Rim*	*20.5R25 on 432-mm (17 in.) Rim*
Wheel Tread on Ground	2.16 m (85.0 in.)	2.21 m (87.0 in.)	2.32 m (92 in.)
Overall Width	2.64 m (104.0 in.)	2.82 m (111 in.)	2.8 m (110 in.)
Ground Clearance (front axle)	587 mm (23.1 in.)	612 mm (24.1 in.)	640 mm (25.2 in.)
Serviceability			
Refill Capacities	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*	
Fuel Tank	416.5 L (110 gal.)	416.5 L (110 gal.)	
Diesel Exhaust Fluid (DEF) Tank	22.5 L (6 gal.)	—	
Cooling System	55.0 L (14.5 gal.)	48.5 L (12.8 gal.)	
Engine Oil With Filter	28.4 L (7.5 gal.)	28.0 L (7.4 gal)	
Transmission Fluid	23.5 L (6.2 gal.)	28.4 L (7.5 gal.)	
Differential Housing	38.0 L (10 gal.)	38.0 L (10 gal.)	
Tandem Housings (each)	74.0 L (19.5 gal.)	74.0 L (19.5 gal.)	
Circle Gearbox	5.7 L (1.5 gal.)	5.7 L (1.5 gal.)	
Hydraulic Reservoir	60.5 L (16 gal.)	53.0 L (14 gal.)	
Operating Weights			
With Full Fuel Tank, 4.27-m x 686-mm x 25-mm (14 ft. x 27 in. x 1.0 in.) Moldboard With 203-mm x 19-mm (8 in. x ¾ in.) Cutting Edges, 17.5R25 L2 Tires, and 79-kg (175 lb.) Operator	*EPA Final Tier 4/EU Stage V*	*EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II*	
Front	4547 kg (10,025 lb.)	4556 kg (10,045 lb.)	
Rear	12 499 kg (27,555 lb.)	11 854 kg (26,134 lb.)	
Total	17 046 kg (37,580 lb.)	16 410 kg (36,179 lb.)	
Typical Operating Weight With Front Push Block, Rear Ripper/Scarifier, and Other Equipment			
Front	5980 kg (13,184 lb.)	6035 kg (13,305 lb.)	
Rear	14 734 kg (32,484 lb.)	13 805 kg (30,435 lb.)	
Total	20 715 kg (45,668 lb.)	19 840 kg (43,740 lb.)	
Maximum Operating Weight	24 948 kg (55,000 lb.)	24 948 kg (55,000 lb.)	

Option Weights	870G/GP
Moldboards With Through-Hardened Dura-Max Cutting Edge	
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 ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	–72 kg (–159 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 ¾ in.) cutting edge and 16-mm (⅝ in.) hardware	0 kg (0 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 ¾ in.) cutting edge and 19-mm (¾ in.) hardware	9.5 kg (21 lb.)
4.88 m x 686 mm x 25 mm (16 ft. x 27 in. x 1 in.) with 203-mm x 19-mm (8 in. x ¾ in.) cutting edge and 19-mm (¾ in.) hardware	137 kg (302 lb.)
Extensions, 610 mm (2 ft.) (right or left)	
For Use With 686-mm (27 in.) Moldboards	120 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 kg (51 lb.)
Heavy-Duty Dual-Input Circle-Drive Gearbox	14 kg (31 lb.)
Circle-Drive Slip Clutch	9 kg (20 lb.)
Circle	
Standard	0 kg (0 lb.)
Premium	255 kg (562 lb.)
Moldboard Impact-Absorption System	43 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 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 kg (1,833 lb.)
Mid-Mount With Teeth (11)	1481 kg (3,265 lb.)
Machine Dimensions	
A Height to Top of Cab	3.18 m (10 ft. 5 in.)
A[I] Height to Top of Full-Height Cab	3.40 m (11 ft. 2 in.)
B Height to Top of Exhaust	3.10 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	2.53 m (8 ft. 4 in.)

Option Weights *(continued)*	870G/GP
Front Lift Group (Balderson-style)	763 kg (1,682 lb.)
Tires	
17.5-R25, Radial, L2 General Purpose	0 kg (0 lb.)
17.5-R25, Radial, G2/L2 Snow	43.5 kg (96 lb.)
17.5-R25, Radial, G3/L3 General Purpose	90 kg (198 lb.)
550/65R25 XLD70 G3/L3 Radial, General Purpose	444 kg (978 lb.)
20.5-R25, Radial, G2/L2 Snow	414 kg (913 lb.)
20.5-R25, Radial, G3/L3 General Purpose	474 kg (1,045 lb.)
1-Piece Rims	
330 mm x 635 mm (13 in. x 25 in.)	–201.4 kg (–444 lb.)
Multi-Piece Rims	
356 mm x 635 mm (14 in. x 25 in.)	0 kg (0 lb.)
432 mm x 635 mm (17 in. x 25 in.)	54.4 kg (120 lb.)
Fenders	
Front	99 kg (218 lb.)
Rear	141 kg (310 lb.)
Low Cab With Opening Front and Side Windows	14.5 kg (32 lb.)
Premium Air-Suspension, Heated Seat With Adjustable Arm- and Headrests	13 kg (28 lb.)
Coolant Heater	4 kg (9 lb.)
Quick Service	11 kg (24 lb.)
Sound-Absorption Package (machines equipped with Tier 3/Stage IIIA and Tier 2/Stage II engines only)	14 kg (31 lb.)
Secondary Steering	26 kg (58 lb.)
Beacon Bracket	8 kg (18 lb.)
Fire Extinguisher	14.5 kg (32 lb.)
Lighting Packages	
10 Halogen Lights	4.5 kg (10 lb.)
18 Halogen Lights	8 kg (18 lb.)
18 LED Lights	7 kg (16 lb.)
High-Front Light Bar for Snowplowing	20 kg (44 lb.)
Auxiliary Hydraulic Control Valve Section and Controls	7 kg (15 lb.)
Hydraulics for Front-Mounted Equipment	9 kg (19 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[I] Overall Length With Scarifier and Ripper	10.59 m (34 ft. 9 in.)

For Overall Width see Tires/Wheels on page 28.



Additional equipment

Key: ● Standard ▲ Optional or special See your John Deere dealer for further information.

620	670	770	870	Operator's Station
●	●	●	●	Low-profile ROPS/FOPS cab with HVAC (ROPS ISO 3471 / FOPS SAE 3449 Level II)
▲	▲	▲	▲	Low-profile ROPS/FOPS cab utilizing laminated glass with fixed lower front and side opening windows
▲	▲	▲	▲	Opening front and side windows (standard with Grade Pro)
●	●	●	●	Keyless start with multiple security modes
●	●	●	●	Fabric air-suspension seat with armrests and headrest
▲	▲	▲	▲	Premium heated, leather/fabric, high-wide-back, air-suspension seat with armrests (standard with Grade Pro)
●	●	●	●	Sealed-switch module with function indicators
●	●	●	●	Electric rear-window defroster
●	●	●	●	Upper front windshield washers with intermittent wipers
▲	●	●	●	Upper rear windshield washers with intermittent wipers
▲	▲	▲	▲	Lower front intermittent wiper and washer
▲	▲	▲	▲	Powered cab precleaner
▲	▲	▲	▲	Decelerator pedal
▲	▲	▲	▲	Flip-down, right- and/or left-hand cab beacon with bracket
●	●	●	●	Cab prewired for beacon, radio, and auxiliary circuit
●	●	●	●	Front window sun visor
▲	▲	▲	▲	Retractable rear sunshade
●	●	●	●	Rearview mirrors, exterior (2) (SAE J985)
▲	▲	▲	▲	Heated exterior mirrors (2) (SAE J985)
▲	▲	▲	▲	Fire extinguisher
●	●	●	●	High-resolution rear camera with dedicated in-cab monitor (in some markets)
▲	▲	▲	▲	High-resolution front/rear-camera combination with dedicated in-cab monitor
●	●	●	●	Retractable seat belt, 76 mm (3 in.) (SAE 386)
▲	▲	▲	▲	AM/FM radio with auxiliary and Weather Band (WB)
▲	▲	▲	▲	AM/FM radio with Bluetooth®, auxiliary, and WB ready
●	●	●	●	Push-button-activated cruise control

620	670	770	870	Electrical
●	●	●	●	100-amp alternator (Tier 3/Stage IIIA and Tier 2/Stage II)
●	●	●	●	130-amp alternator (FT4/Stage V [optional for Tier 3/Stage IIIA and Tier 2/Stage II])
▲	▲	▲	▲	200-amp alternator (FT4/Stage V)
●	●	●	●	Batteries (2), 1,400 CCA with 440-min. reserve capacity
▲	●	●	●	Left-hand engine compartment service-check light
▲	▲	▲	▲	Right-hand engine compartment service-check light
●	●	●	●	Transporting lights (4 halogen)
▲	▲	▲	▲	Grading lights (10 halogen lights)
▲	▲	▲	▲	Deluxe grading lights (18 halogen lights)
▲	▲	▲	▲	Premium grading lights (18 LED lights)
	▲	▲	▲	Tall front snowplow light bar
●	●	●	●	Multifunction/multi-language diagnostic LCD color monitor
●	●	●	●	Reverse warning alarm (SAE J994)
●	●	●	●	LED brake and turn lights
				Moldboard
				Patented pre-stressed, high strength, wear resistant:
●	●	●		3.66 m x 610 mm x 22 mm (12 ft. x 24 in. x ⅞ in.)
	▲	▲	▲	3.96 m x 686 mm x 25 mm (13 ft. x 27 in. x 1 in.)
▲	▲	▲		4.27 m x 610 mm x 22 mm (14 ft. x 24 in. x ⅞ in.)
	▲	▲	●	4.27 m x 686 mm x 25 mm (14 ft. x 27 in. x 1 in.)
			▲	4.88 m x 686 mm x 25 mm (16 ft. x 27 in. x 1 in.)
●	●	●	●	Quick-change and jackscrew-adjustable moldboard side-shift extreme-duty wear inserts
▲	▲	▲		610-mm (24 in.) left- or right-hand extensions for 610-mm (24 in.) moldboard
		▲	▲	610-mm (24 in.) left- or right-hand extensions for 686-mm (27 in.) moldboard
▲	▲	▲	▲	Reversible overlay endbits
				Overall Vehicle
●	●	●	●	JDLink™ wireless communication system (available in specific countries; see your dealer for details)
●	●	●	●	Ground-level fuel and diesel exhaust fluid (DEF) filling
▲	●	●	●	Fluid-sampling ports for engine oil and coolant, hydraulic oil, and axle and transmission fluids

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions specified per ISO9249. No derating is required up to 3050-m (10,000 ft.) altitude. 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 units with standard equipment; 14.0 x 610-mm (24 in.) 12 PR G2, Bias tires and 3.66-m x 610-mm x 22-mm (12 ft. x 24 in. x ⅞ in.) high-strength, wear-resistant moldboards with 16-mm x 152-mm (0.63 in. x 6 in.) Dura-Max® through-hardened-steel cutting edges for the 620G, 670G, and 770G; and 17.5 R 635-mm (25 in.) L2, Radial tires and 4.27-m x 688-mm x 25-mm (14 ft. x 27 in. x 1 in.) high-strength, wear-resistant moldboards with 16-mm x 152-mm (0.63 in. x 6 in.) Dura-Max through-hardened-steel cutting edges for the 870G. Weights include lubricants, coolants, full fuel tanks, and 79-kg (175 lb.) operators.

Additional equipment *(continued)*

Key: ● Standard ▲ Optional or special See your John Deere dealer for further information.

620	670	770	870	Overall Vehicle *(continued)*
●	●	●	●	Vandal-protection locking for: Cab doors / Top tank radiator-access door / Engine coolant surge tank / Hydraulic reservoir cap / Battery-disconnect switch / Ground-level electrical master disconnect switch / Fuel-tank door and cap / Toolbox
●	●	●	●	Environmental drains with hoses for engine, transmission, hydraulic, differential fluids, and engine coolant
▲	●	●	●	Hydraulically driven cool-on-demand reversing fan
●	●	●	●	Banked easy-access vertical spin-on filters for hydraulic, transmission, and axle fluids
●	●	●	●	Engine rotary ejector precleaner
●	●	●	●	Automatic differential lock
●	●	●	●	Engine-stall prevention and auto shutdown
▲	▲	▲	▲	Adjustable rotary engine precleaner (FT4/Stage V)
	▲	●	●	Heavy-duty air cleaner (FT4/Stage V)
●	●	●		Single-input circle drive
▲	▲	▲		Single-input circle drive with slip clutch
	▲	▲	●	Heavy-duty dual-input circle drive without slip clutch
	▲	▲	▲	Heavy-duty dual-input circle drive with slip clutch
▲	▲	▲	▲	Premium circle
▲	▲	▲	▲	AutoShift transmission
▲	▲	▲	▲	Blade-impact-absorption system
▲	▲	▲	▲	Front and/or rear wheel fenders
▲	▲	▲	▲	Quick-service bank for transmission, hydraulic, engine oil, and engine coolant fluid changes
▲	▲	▲	▲	Secondary steering
	▲	▲	▲	Sound-absorption package (Tier 3/Stage IIIA and Tier 2/Stage II)
▲	▲	▲	▲	Wheel chocks
				Automation
▲	▲	▲	▲	Automation Suite including Auto-Articulation, Blade Flip, and Machine Presets (standard on SmartGrade™ models, optional on GP models)
▲	▲	▲	▲	Auto-Articulation
▲	▲	▲	▲	Blade Flip
▲	▲	▲	▲	Machine Presets

620	670	770	870	Front Attachments
▲	▲	▲	▲	Front push block
▲	▲	▲	▲	V-type front scarifier with float position, 5 shanks
▲	▲	▲	▲	Mid-mount scarifier with float position, 11 shanks
▲	▲	▲	▲	Front Balderson-style lift group with float position
▲	▲	▲	▲	Front-mounted dozer blades
				Rear Attachments
●	●	●	●	Full bottom guard with access panel and side guards for rear vehicle protection
▲	▲	▲	▲	Rear-mounted ripper/scarifier combination with rear hitch and pin, 3 ripper shanks
▲	▲	▲	▲	Rear counterweight with rear hitch and pin
▲	▲	▲	▲	Rear hitch and pin
▲	▲	▲	▲	Extra scarifier shanks (9) with teeth for rear ripper scarifier
	▲	▲	▲	Extra ripper shanks (2) with teeth for rear ripper/ scarifier
				Grade Pro (GP) Option
●	●	●	●	Low-profile GP cab with opening lower front and side windows
▲	▲	▲	▲	Low-profile GP cab utilizing laminated glass with fixed lower front and side opening windows
●	●	●	●	Premium heated, leather/fabric, high-wide-back, air-suspension seat with armrests
▲	▲	▲	▲	Dual-joystick controls
▲	▲	▲	▲	Fingertip armrest-mounted controls including steering lever
●	●	●	●	Steering wheel
●	●	●	●	Cross-slope
●	●	●	●	Return to straight
				Grade Control
▲	▲	▲	▲	SmartGrade
▲	▲	▲	▲	Mast mounts
▲	▲	▲	▲	Topcon ready available on G and GP models
▲	▲	▲	▲	Trimble ready available on G and GP models

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IN YOUR WORLD,

DECIDE HOW YOUR WORK GETS DONE.

Take control with more options

Inspired by input from customers like you, John Deere G-Series Motor Graders include a host of innovative options like factory-integrated SmartGrade™ configurations. Dual-joystick controls on GP models. And Precision mode on six-wheel-drive machines. The smaller, more economical 620G and 622G deliver practical power at up to 10-percent fuel savings over their larger siblings. We give you the power of choice to match your application. So you can choose to **Run Your World.**

DKAGGDR Litho in U.S.A. (20-02)