

G-SERIES 4WD
MOTOR GRADERS



JOHN DEERE

620GP / 670GP / 770GP / 870GP



**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.**

John Deere motor graders have earned a reputation for exceptional control and effortless grading precision. And now, thanks to the best ideas of customers like you, we've made some additions to our list of featured firsts. Along with Customer Advocate Group-tested dual-joystick controls, wide-ranging grade-control system options including integrated SmartGrade models, and a number of industry-exclusive automation updates, it's just one more example of all the ways we're leading the way to move your operation in a whole new direction.



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

Our competitively priced 620GP 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, GP-Series Graders help you do your level best — whether you're a major contractor, working for the county, or running a land-leveling crew.

Innovation in action

New John Deere automation features designed to move you ahead in a big way include Machine-Damage Avoidance, Machine Presets, Auto-Articulation, Auto-Gain for Cross Slope, and Auto-Pass (see page 6 for all the details).

Go forward

Auto-Shift PLUS provides simplified machine operation without using the inching pedal.

The right power for the job

GP-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.

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.

Smarter from day one

Integration of SmartGrade into the 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
AUTOMATION FEATURES
& SMARTGRADE
CONFIGURATIONS**



GET AHEAD OF IT

THE JOHN DEERE DIFFERENCE.

Set yourself apart from the competition. Because with industry-exclusive Auto-Gain for Cross Slope, Auto-Pass, and Auto-Shift PLUS, it's push-button easy to take the lead. Our automation advantages are also available as field kits that can be unlocked on SmartGrade models.



1 Exclusive **Auto-Shift PLUS** allows operators to work without using the inching pedal.

2 **Auto-Gain for Cross Slope** automatically adjusts gain settings based on ground speed to maximize performance.

3 **Auto-Articulation** allows the operator to increase the maneuverability of coordinated steering and articulation while using only the joystick-steering function to steer and operate other necessary functions without manually articulating the machine.

4 **Machine-Damage Avoidance** eliminates the risk of blade damage to machine structures during any operation, even complex orientations.

5 Exclusive **Auto-Pass** makes grading easy by automatically placing the blade on the ground and activating the grade-control system (when equipped) at the start of the pass, then automatically raising and resetting the blade at the end of it.

6 Preparing the machine for transport is push-button easy with **Machine Presets**. Stow the blade and ripper, turn on the lights including the hazards, and enable Auto-Shift with one button press, for speedy jobsite transitions.

Optional premium circle

Featuring a fully sealed bearing and pinion that run smoother and quieter, this industry-leading design reduces operating costs while delivering 40-percent more torque and 15-percent more speed than a traditional circle. Contractors no longer have to compensate for wear in the circle, improving accuracy when using a grade-control system — especially impactful when coupled with the innovative John Deere SmartGrade system. And greasing intervals of only four zerks every 500 hours make the premium circle essentially maintenance free.



FREEDOM OF CHOICE

WITHOUT LIFTING A FINGER.

Our GP-Series Graders give you more choice of how work gets done. 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. 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.

Return-to-straight

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

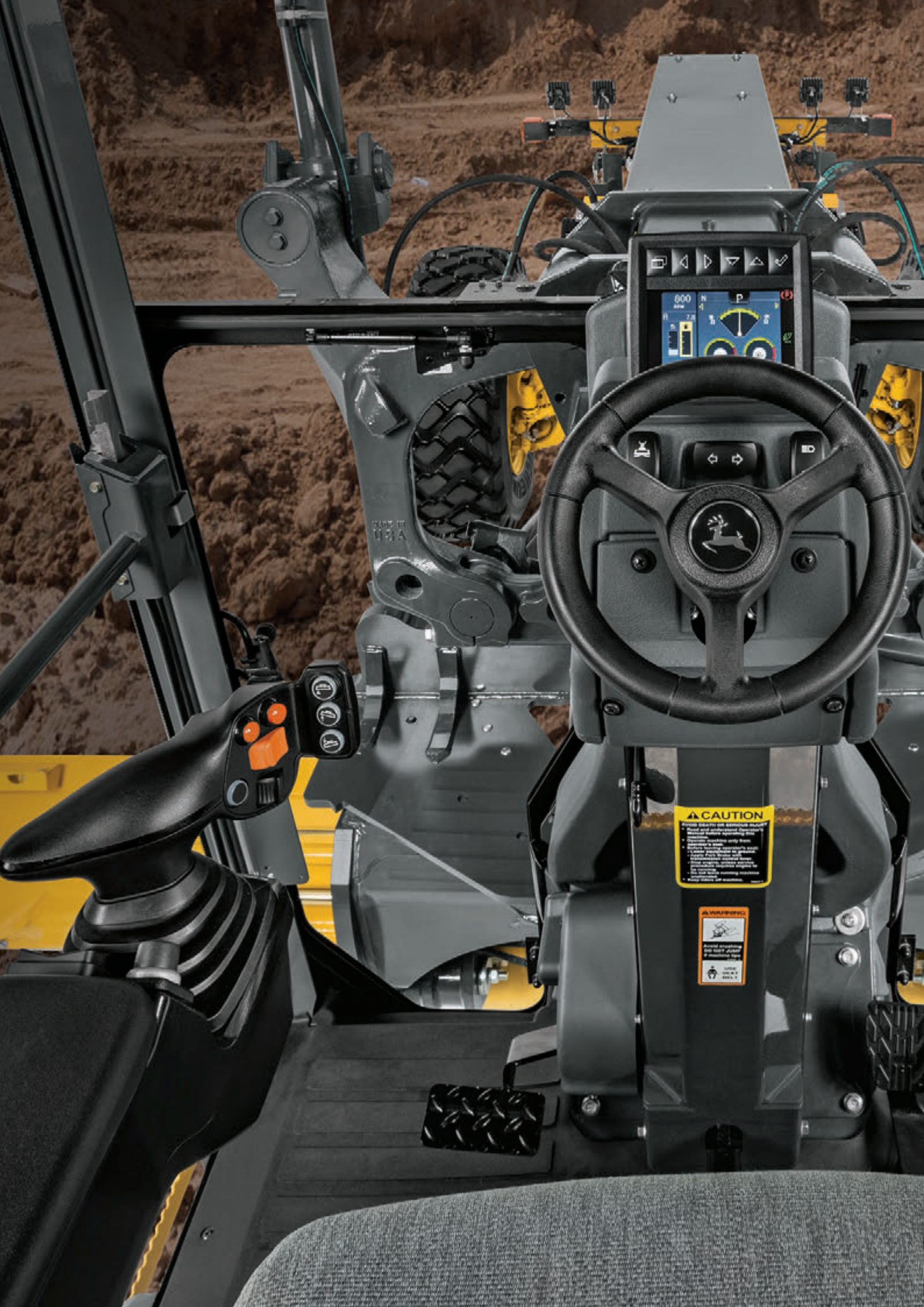
Automated cross slope

Dual-joystick controls and fingertip 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. This feature helps veteran operators be their best and new operators get up to speed more quickly.



CHOICE OF CONTROLS

- DUAL-JOYSTICK CONTROLS
- FINGERTIP ARMREST MOUNTED
- STEERING WHEEL (STANDARD ON ALL MODELS)



MADE IN
USA

CAUTION
AVOID DEATH OR SERIOUS INJURY!
• Read and understand all operating instructions before operating this machine.
• Do not operate until you have received proper training from a qualified operator.
• Always use proper tie-off technique.
• Do not use the machine unless you are a qualified operator.
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ALWAYS WEAR YOUR SEATBELT
Avoid accidents and injury. Always wear your seat belt.
USE ONLY SEAT BELT



EXPANSIVE VISIBILITY

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 GP-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.

Now you see it

Contractors will benefit from improved visibility to the tandems while working around obstacles such as water mains and hubs.



KEEP DOWNTIME DOWN.

SO MUCH TO DO, SO LITTLE TIME

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



**STANDARD
REVERSING FAN**
(OPTIONAL ON 620GP)



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 620GP) speeds core cleanout in high-debris applications.

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.

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.

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.

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

PRECISION CONSTRUCTION

This suite of construction technology delivers **Productivity Solutions** to help you get more done, more efficiently. In-base JDLink™ connectivity provides machine location, utilization data, and alerts to help you maximize productivity and efficiency. Other productivity solutions include grade-management options for multiple machine forms and payload weighing for wheel loaders and articulated dump trucks.

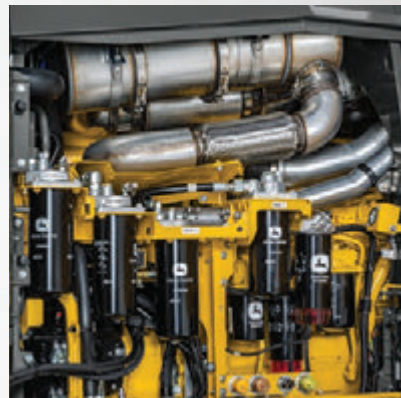
To maximize uptime and lower costs, JDLink also enables **John Deere Connected Support™**. John Deere's centralized Machine Health Monitoring Center analyzes data from thousands of connected machines, identifies trends, and develops recommended actions, called Expert Alerts, to help prevent downtime. 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.



Connected to customers

The Wirtgen Group has become known worldwide for technological innovations and machine solutions for the road construction and rehabilitation industries. You can rely on complete customer-focused support for your John Deere equipment from the extensive Wirtgen Group dealer network.



620GP SPECIFICATIONS

Engine		620GP	
Manufacturer and Model	John Deere PowerTech™ PSS 6.8L		
Non-Road Emission Standard	EU Stage V		
Cylinders	6		
Displacement	6.8L		
Net Engine Power			
Gear 1	112 kW		
Gear 2	123 kW		
Gear 3	134 kW		
Gear 4	142 kW		
Gear 5	149 kW		
Gear 6	153 kW		
Gear 7	157 kW		
Gear 8	160 kW		
Net Peak Torque	1005 Nm		
Net Torque Rise	40%		
Engine Bore and Stroke	107 x 127 mm		
Aspiration	Series turbocharged, charge-air cooled		
Lubrication	Full-flow spin-on filter and integral cooler		
Air Cleaner With Restriction Indicator	Dual element, dry		
Cooling			
Engine Coolant, Extended Life, Rating	-37 deg. C		
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. gear pump		
Gears			
Forward	8		
Reverse	8		
Maximum Travel Speeds	<i>No tire slip at 2,180 rpm, 14.0-R24 tires</i>	Maximum Travel Speeds (continued)	<i>No tire slip at 2,180 rpm, 14.0-R24 tires</i>
Gear 1	4.0 km/h	Gear 5	16.4 km/h
Gear 2	5.6 km/h	Gear 6	23.2 km/h
Gear 3	7.7 km/h	Gear 7	32.3 km/h
Gear 4	10.9 km/h	Gear 8	45.5 km/h*
*Maximum speed may be reduced for specific regions.			
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; automated return-to-straight feature		
Turning Radius (front steer and articulation)	7.21 m		
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.		
Maximum System Pressure	18 961 kPa		
Pump Displacement	90 cm ³		

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620GP SPECIFICATIONS



Blade Function		620GP
All-hydraulic; includes float position and 7 discrete saddle positions		
Blade Range		
Lift Above Ground	490 mm	
Blade Side Shift (right or left)	678 mm	
Pitch at Ground Line		
Forward	42 deg.	
Back	5 deg.	
Shoulder Reach Outside Wheels (frame straight, right or left)	2048 mm	
Bank Cut Angle (right or left)	90 deg.	
Blade Pull		
At Maximum Operating Weight	14 091 kg	
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	200 amp	
Lights	Driving lights; high- and low-beam LED 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	
Height (minimum)	307 mm	
Thickness		
Side	16 mm	
Top and Bottom Plate	23 mm	
Modulus		
Minimum Vertical Section	1445 cm ³	
Average Vertical Section at Saddle	2245 cm ³	
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		
	<i>Standard Circle</i>	<i>Premium Circle</i>
Circle Diameter	1524 mm	1524 mm
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	787 mm
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	
Height (measured along arc, including cutting edge)	610 mm	
Thickness	22 mm	

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620GP

Cutting Edge		620GP
Dura-Max™ through-hardened steel edge		
Thickness	16 mm	
Width	152 mm	
Scarifier		
<i>Mid-mount</i>		
Type	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch position with hydraulic float	
Width of Cut	1.19 m	
Number of Shanks/Teeth	11	
Lift Above Ground	335 mm	
Maximum Depth	325 mm	
Shank		
Spacing	117 mm	
Size	25 x 76 mm	
Front Dozer Blade		
Parallel linkage, hydraulic float		
Lift Above Ground	706 mm	
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	2.18 m
Number of Shanks/Teeth	3 (maximum capacity 5)	None standard (maximum capacity 9)
Lift Above Ground	602 mm	810 mm
Maximum Depth	426 mm	323 mm
Force		
Penetration	9430 kg	—
Pry-Out	11 971 kg	—
Shank Size	61.5 x 133 mm	25 x 76 mm
Operator Station		
Low-profile cab with ROPS (ISO 3471-2008) and FOPS (ISO 3449-2005)		
Tires/Wheels		
	<i>14R24 on 254-mm Rim</i>	<i>17.5R25 on 356-mm Rim</i>
Wheel Tread on Ground	2.08 m	2.16 m
Overall Width	2.49 m	2.64 m
Ground Clearance (front axle)	587 mm	587 mm
Serviceability		
Refill Capacities		
Fuel Tank	416.5 L	
Diesel Exhaust Fluid (DEF) Tank	22.5 L	
Cooling System	51.0 L	
Engine Oil With Filter	31.5 L	
Transmission Fluid	28.4 L	
Differential Housing	38.0 L	
Tandem Housings (each)	74.0 L	
Circle Gearbox	5.7 L	
Hydraulic Reservoir	60.5 L	
Operating Weights		
With Full Fuel Tank, 3.66-m x 610-mm x 22-mm Moldboard With 152-mm x 16-mm Cutting Edges, 14R24 L2 Tires, and 79-kg Operator		
Front	4178 kg	
Rear	11 567 kg	
Total	15 745 kg	
Typical Operating Weight With Front Dozer Blade, Rear Ripper/Scarifier, and Other Equipment		
Front	5255 kg	
Rear	13 569 kg	
Total	18 824 kg	
Maximum Operating Weight	22 680 kg	

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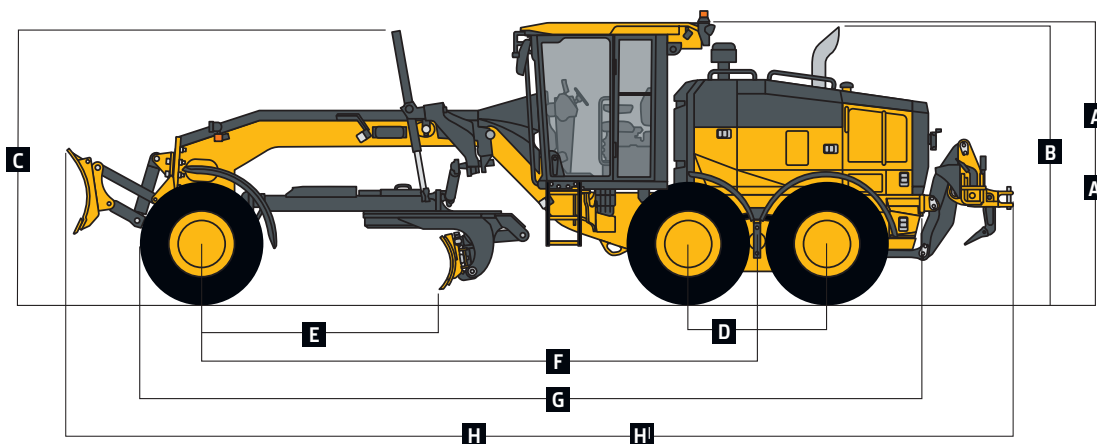
Option Weights	620GP
Moldboards With Through-Hardened Dura-Max Cutting Edge	
3.66 m x 610 mm x 22 mm With 152-mm x 16-mm Cutting Edge and 16-mm Hardware	0 kg
3.66 m x 610 mm x 22 mm With 203-mm x 19-mm Cutting Edge and 16-mm Hardware	45 kg
4.27 m x 610 mm x 22 mm With 152-mm x 16-mm Cutting Edge and 16-mm Hardware	105 kg
4.27 m x 610 mm x 22 mm With 203-mm x 19-mm Cutting Edge and 16-mm Hardware	1574 kg
Extensions, 610 mm (right or left)	
For Use With 610-mm Moldboards	116 kg
Overlay End Bits, Reversible (one pair)	
For 152-mm Cutting Edge	19.5 kg
For 203-mm Cutting Edge	23 kg
Circle-Drive Slip Clutch	9 kg
Circle	
Standard	0 kg
Premium	289 kg
Moldboard Impact-Absorption System	43 kg
Ripper/Scarifier, Rear Mounted With Hitch and Ripper Shanks (3)	1139 kg
Scarifier Shanks With Teeth (9 for rear ripper/scarifier)	68 kg
Rear Counterweight With Integral Rear Hitch	727 kg
Rear Hitch	54.4 kg
Push Block, Front	907 kg
Scarifier Mid-Mount With Teeth (11)	1481 kg
Front Dozer Blade	1039 kg

Machine Dimensions	
A	Height to Top of Cab 3.18 m
A ¹	Height to Top of Full-Height Cab 3.40 m
B	Height to Top of Exhaust 3.10 m
C	Height to Top of Blade-Lift Cylinders 3.05 m
D	Tandem Axle Spacing 1.54 m
E	Blade Base 2.57 m

Option Weights (continued)	620GP
Tires	
14.00-24, 12 PR G2	-220.4 kg
17.5-25, 12 PR G2/L2	-106 kg
14.00-R24, Radial, G2/L2 General Purpose	0 kg
14.00-R24, Radial, G2/L2 Snow	40.8 kg
17.5-R25, Radial, L2 General Purpose	51.7 kg
17.5-R25, Radial, G2/L2 Snow	95.3 kg
17.5-R25, Radial, G3/L3 General Purpose	141.5 kg
1-Piece Rims	
229 mm x 610 mm	0 kg
330 mm x 635 mm	65 kg
Multi-Piece Rims	
254 mm x 610 mm	180 kg
356 mm x 635 mm	267 kg
Fenders	
Front	99 kg
Rear	141 kg
Low Cab With Opening Front and Side Windows	14.5 kg
Premium Air-Suspension, Heated Seat With Adjustable Arm- and Headrests	13 kg
Coolant Heater	4 kg
Quick Service	11 kg
Secondary Steering	26 kg
Beacon Bracket	8 kg
Fire Extinguisher	14.5 kg
Lighting Packages – 16 LED Lights	7 kg
Front and Rear Light Bar Extensions	48 kg
Auxiliary Hydraulic Control Valve Section and Controls	7 kg
Hydraulics for Front-Mounted Equipment	9 kg

Machine Dimensions (continued)	
F	Wheelbase 6.16 m
G	Overall Length 8.89 m
H	Overall Length With Push Block and Ripper 9.99 m
H ¹	Overall Length With Front-Mounted Blade and Ripper 10.60 m

For Overall Width see Tires/Wheels on page 16.





670GP SPECIFICATIONS

Engine		670GP	
Manufacturer and Model	John Deere PowerTech™ PSS 9.0L		
Non-Road Emission Standard	EU Stage V		
Cylinders	6		
Displacement	9.0L		
Net Engine Power			
Gear 1	134 kW		
Gear 2	142 kW		
Gear 3	153 kW		
Gear 4	157 kW		
Gear 5	164 kW		
Gear 6	168 kW		
Gear 7	172 kW		
Gear 8	175 kW		
Net Peak Torque	1225 Nm		
Net Torque Rise	56%		
Engine Bore and Stroke	118 x 136 mm		
Aspiration	Series turbocharged, charge-air cooled		
Lubrication	Full-flow spin-on filter and integral cooler		
Air Cleaner With Restriction Indicator	Dual element, dry		
Cooling			
Engine Coolant, Extended Life, Rating	-37 deg. C		
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. gear pump		
Gears			
Forward	8		
Reverse	8		
Maximum Travel Speeds	<i>No tire slip at 2,180 rpm, 14R24 tires</i>	Maximum Travel Speeds (continued)	<i>No tire slip at 2,180 rpm, 14R24 tires</i>
Gear 1	4.0 km/h	Gear 5	16.4 km/h
Gear 2	5.6 km/h	Gear 6	23.2 km/h
Gear 3	7.7 km/h	Gear 7	32.3 km/h
Gear 4	10.9 km/h	Gear 8	45.5 km/h*
*Maximum speed may be reduced for specific regions.			
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; automated return-to-straight feature		
Turning Radius (front steer and articulation)	7.21 m		
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.		
Maximum System Pressure	18 961 kPa		
Pump Displacement	90 cm ³		

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670GP SPECIFICATIONS



Blade Function		670GP
All-hydraulic, industry-standard lever placement of blade-function controls; includes float position; 7 discrete saddle positions		
Blade Range		
Lift Above Ground		490 mm
Blade Side Shift (right or left)		678 mm
Pitch at Ground Line		
Forward		42 deg.
Back		5 deg.
Shoulder Reach Outside Wheels (frame straight, right or left)		2048 mm
Bank Cut Angle (right or left)		90 deg.
Blade Pull		
At Maximum Operating Weight		15 501 kg
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		200 amp
Lights	Driving lights; high- and low-beam LED 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	
Height (minimum)	307 mm	
Thickness		
Side	16 mm	
Top and Bottom Plate	23 mm	
Modulus		
Minimum Vertical Section	1445 cm ³	
Average Vertical Section at Saddle	2245 cm ³	
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		
	<i>Standard Circle</i>	<i>Premium Circle</i>
Circle Diameter	1524 mm	1524 mm
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	787 mm
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	
Height (measured along arc, including cutting edge)	610 mm	
Thickness	22 mm	

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670GP

Cutting Edge		670GP
Dura-Max™ through-hardened steel edge		
Thickness	16 mm	
Width	152 mm	
Scarifier		
<i>Mid-mount</i>		
Type	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch position with hydraulic float	
Width of Cut	1.19 m	
Number of Shanks/Teeth	11	
Lift Above Ground	335 mm	
Maximum Depth	325 mm	
Shank		
Spacing	117 mm	
Size	25 x 76 mm	
Front Dozer Blade		
Parallel linkage, hydraulic float		
Lift Above Ground	706 mm	
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	2.18 m
Number of Shanks/Teeth	3 (maximum capacity 5)	None standard (maximum capacity 9)
Lift Above Ground	602 mm	810 mm
Maximum Depth	426 mm	323 mm
Force		
Penetration	9674 kg	—
Pry-Out	12 400 kg	—
Shank Size	61.5 x 133 mm	25 x 76 mm
Operator Station		
Low-profile cab with ROPS (ISO 3471-2008) and FOPS (ISO 3449-2005)		
Tires/Wheels		
		<i>14R24 on 254-mm Rim</i>
		<i>17.5R25 on 356-mm Rim</i>
Wheel Tread on Ground	2.08 m	2.16 m
Overall Width	2.49 m	2.64 m
Ground Clearance (front axle)	587 mm	587 mm
Serviceability		
Refill Capacities		
Fuel Tank	416.5 L	
Diesel Exhaust Fluid (DEF) Tank	22.5 L	
Cooling System	55.0 L	
Engine Oil With Filter	28.4 L	
Transmission Fluid	28.4 L	
Differential Housing	38.0 L	
Tandem Housings (each)	74.0 L	
Circle Gearbox	5.7 L	
Hydraulic Reservoir	60.5 L	
Operating Weights		
With Full Fuel Tank, 3.66-m x 610-mm x 22-mm Moldboard With 152-mm x 16-mm Cutting Edges, 14R24 L2 Tires, and 79-kg Operator		
Front	4178 kg	
Rear	11 798 kg	
Total	15 976 kg	
Typical Operating Weight With Front Dozer Blade, Rear Ripper/Scarifier, and Other Equipment		
Front	5443 kg	
Rear	13 921 kg	
Total	19 364 kg	
Maximum Operating Weight	24 948 kg	

While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

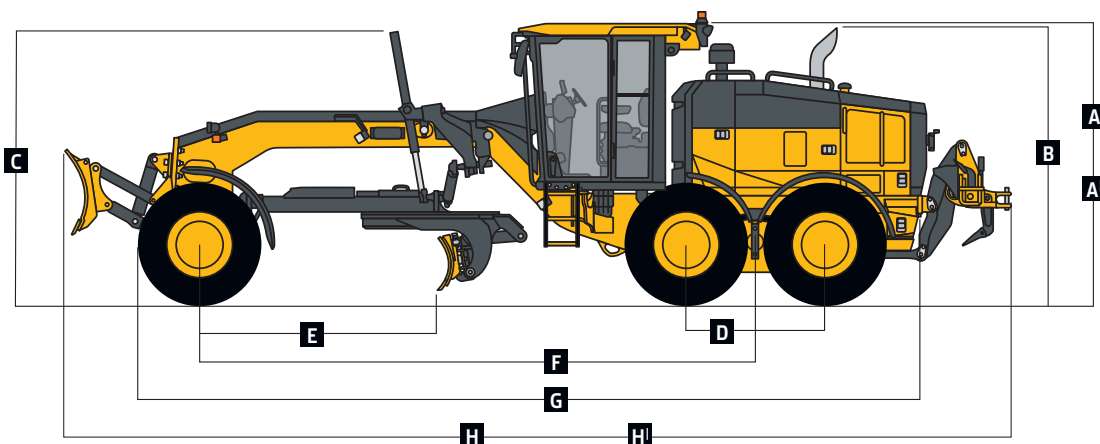
Option Weights	670GP
Moldboards With Through-Hardened Dura-Max Cutting Edge	
3.66 m x 610 mm x 22 mm With 152-mm x 16-mm Cutting Edge and 16-mm Hardware	0 kg
3.66 m x 610 mm x 22 mm With 203-mm x 19-mm Cutting Edge and 16-mm Hardware	45 kg
4.27 m x 610 mm x 22 mm With 152-mm x 16-mm Cutting Edge and 16-mm Hardware	105 kg
4.27 m x 610 mm x 22 mm With 203-mm x 19-mm Cutting Edge and 16-mm Hardware	1574 kg
Extensions, 610 mm (right or left)	
For Use With 610-mm Moldboards	116 kg
For Use With 686-mm Moldboards	120 kg
Overlay End Bits, Reversible (one pair)	
For 152-mm Cutting Edge	19.5 kg
For 203-mm Cutting Edge	23 kg
Heavy-Duty Dual-Input Circle-Drive Gearbox	14 kg
Circle-Drive Slip Clutch	9 kg
Circle	
Standard	0 kg
Premium	289 kg
Moldboard Impact-Absorption System	43 kg
Ripper/Scarifier, Rear Mounted With Hitch and Ripper Shanks (3)	1139 kg
Scarifier Shanks With Teeth (9 for rear ripper/scarifier)	68 kg
Ripper Shanks and Teeth (2)	63 kg
Rear Counterweight With Integral Rear Hitch	727 kg
Rear Hitch	54.4 kg
Push Block, Front	1338 kg
Scarifier, Mid-Mount With Teeth (11)	1481 kg

Machine Dimensions	
A	Height to Top of Cab 3.18 m
A ^I	Height to Top of Full-Height Cab 3.40 m
B	Height to Top of Exhaust 3.10 m
C	Height to Top of Blade-Lift Cylinders 3.05 m
D	Tandem Axle Spacing 1.54 m
E	Blade Base 2.57 m

Option Weights (continued)	670GP
Front Dozer Blade	1039 kg
Tires	
14.00-24, 12 PR G2	0 kg
17.5-25, 12 PR G2/L2	114 kg
14.00-R24, Radial, G2/L2 General Purpose	220 kg
14.00-R24, Radial, G2/L2 Snow	261 kg
17.5-R25, Radial, L2 General Purpose	272 kg
17.5-R25, Radial, G2/L2 Snow	316 kg
17.5-R25, Radial, G3/L3 General Purpose	362 kg
1-Piece Rims	
229 mm x 610 mm	0 kg
330 mm x 635 mm	65 kg
Multi-Piece Rims	
254 mm x 610 mm	180 kg
356 mm x 635 mm	267 kg
Fenders	
Front	99 kg
Rear	141 kg
Low Cab With Opening Front and Side Windows	14.5 kg
Premium Air-Suspension, Heated Seat With Adjustable Arm- and Headrests	13 kg
Coolant Heater	4 kg
Quick Service	11 kg
Secondary Steering	26 kg
Beacon Bracket	8 kg
Fire Extinguisher	14.5 kg
Lighting Packages – 16 LED Lights	7 kg
Front and Rear Light Bar Extensions	48 kg
Auxiliary Hydraulic Control Valve Section and Controls	7 kg
Hydraulics for Front-Mounted Equipment	9 kg

Machine Dimensions (continued)	
F	Wheelbase 6.16 m
G	Overall Length 8.89 m
H	Overall Length With Push Block and Ripper 9.99 m
H ^I	Overall Length With Front-Mounted Blade and Ripper 10.60 m

For Overall Width see Tires/Wheels on page 20.



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770GP SPECIFICATIONS

Engine	770GP		
Manufacturer and Model	John Deere PowerTech™ PSS 9.0L		
Non-Road Emission Standard	EU Stage V		
Cylinders	6		
Displacement	9.0L		
Net Engine Power			
Gear 1	149 kW		
Gear 2	157 kW		
Gear 3	168 kW		
Gear 4	172 kW		
Gear 5	179 kW		
Gear 6	183 kW		
Gear 7	187 kW		
Gear 8	190 kW		
Net Peak Torque	1314 Nm		
Net Torque Rise	54%		
Engine Bore and Stroke	118 x 136 mm		
Aspiration	Series turbocharged, charge-air cooled		
Lubrication	Full-flow spin-on filter and integral cooler		
Air Cleaner With Restriction Indicator	Dual element, dry		
Cooling			
Engine Coolant, Extended Life, Rating	-37 deg. C		
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. gear pump		
Gears			
Forward	8		
Reverse	8		
Maximum Travel Speeds	<i>No tire slip at 2,180 rpm, 14R24 tires</i>	Maximum Travel Speeds (continued)	<i>No tire slip at 2,180 rpm, 14R24 tires</i>
Gear 1	4.0 km/h	Gear 5	16.4 km/h
Gear 2	5.6 km/h	Gear 6	23.2 km/h
Gear 3	7.7 km/h	Gear 7	32.3 km/h
Gear 4	10.9 km/h	Gear 8	45.5 km/h*
*Maximum speed may be reduced for specific regions.			
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; automated return-to-straight feature		
Turning Radius (front steer and articulation)	7.21 m		
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.		
Maximum System Pressure	18 961 kPa		
Pump Displacement	90 cm ³		

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770GP SPECIFICATIONS



Blade Function		770GP
All-hydraulic, industry-standard lever placement of blade-function controls; includes float position; 7 discrete saddle positions		
Blade Range		
Lift Above Ground	490 mm	
Blade Side Shift (right or left)	678 mm	
Pitch at Ground Line		
Forward	42 deg.	
Back	5 deg.	
Shoulder Reach Outside Wheels (frame straight, right or left)	2048 mm	
Bank Cut Angle (right or left)	90 deg.	
Blade Pull		
At Maximum Operating Weight	15 501 kg	
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	200 amp	
Lights	Driving lights; high- and low-beam LED 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	
Height (minimum)	307 mm	
Thickness		
Side	16 mm	
Top and Bottom Plate	23 mm	
Modulus		
Minimum Vertical Section	1770 cm ³	
Average Vertical Section at Saddle	2245 cm ³	
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		
	<i>Standard Circle</i>	<i>Premium Circle</i>
Circle Diameter	1524 mm	1524 mm
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	787 mm
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	
Height (measured along arc, including cutting edge)	610 mm	
Thickness	22 mm	

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770GP

Cutting Edge		770GP	
Dura-Max™ through-hardened steel edge			
Thickness	16 mm		
Width	152 mm		
Scarifier			
<i>Mid-mount</i>			
Type	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch position with hydraulic float		
Width of Cut	1.19 m		
Number of Shanks/Teeth	11		
Lift Above Ground	335 mm		
Maximum Depth	325 mm		
Shank			
Spacing	117 mm		
Size	25 x 76 mm		
Front Dozer Blade			
Parallel linkage, hydraulic float			
Lift Above Ground	706 mm		
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	2.18 m	
Number of Shanks/Teeth	3 (maximum capacity 5)	None standard (maximum capacity 9)	
Lift Above Ground	602 mm	810 mm	
Maximum Depth	426 mm	323 mm	
Force			
Penetration	9762 kg	—	
Pry-Out	12 544 kg	—	
Shank Size	61.5 x 133 mm	25 x 76 mm	
Operator Station			
Low-profile cab with ROPS (ISO 3471-2008) and FOPS (ISO 3449-2005)			
Tires/Wheels			
	<i>14R24 on 254-mm Rim</i>	<i>17.5R25 on 356-mm Rim</i>	<i>550/65R25 on 432-mm Rim</i>
Wheel Tread on Ground	2.08 m	2.16 m	2.21 m
Overall Width	2.49 m	2.64 m	2.82 m
Ground Clearance (front axle)	587 mm	587 mm	612 mm
Serviceability			
Refill Capacities			
Fuel Tank	416.5 L		
Diesel Exhaust Fluid (DEF) Tank	22.5 L		
Cooling System	55.0 L		
Engine Oil With Filter	28.4 L		
Transmission Fluid	28.4 L		
Differential Housing	38.0 L		
Tandem Housings (each)	74.0 L		
Circle Gearbox	5.7 L		
Hydraulic Reservoir	60.5 L		
Operating Weights			
With Full Fuel Tank, 3.66-m x 610-mm x 22-mm Moldboard With 152-mm x 16-mm Cutting Edges, 14R24 L2 Tires, and 79-kg Operator			
Front	4305 kg		
Rear	12 084 kg		
Total	16 388 kg		
Typical Operating Weight With Front Dozer Blade, Rear Ripper/Scarifier, and Other Equipment			
Front	5507 kg		
Rear	14 048 kg		
Total	19 544 kg		
Maximum Operating Weight	24 948 kg		

While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

Option Weights	770GP
Moldboards With Through-Hardened Dura-Max Cutting Edge	
3.66 m x 610 mm x 22 mm With 152-mm x 16-mm Cutting Edge and 16-mm Hardware	0 kg
3.66 m x 610 mm x 22 mm With 203-mm x 19-mm Cutting Edge and 16-mm Hardware	45 kg
4.27 m x 610 mm x 22 mm With 152-mm x 16-mm Cutting Edge and 16-mm Hardware	105 kg
4.27 m x 610 mm x 22 mm With 203-mm x 19-mm Cutting Edge and 16-mm Hardware	157.4 kg
4.27 m x 686 mm x 25 mm With 203-mm x 19-mm Cutting Edge and 16-mm Hardware	251 kg
4.27 m x 686 mm x 25 mm With 203-mm x 19-mm Cutting Edge and 19-mm Hardware	261 kg
Extensions, 610 mm (right or left)	
For Use With 610-mm Moldboards	116 kg
For Use With 686-mm Moldboards	120 kg
Overlay End Bits, Reversible (one pair)	
For 152-mm Cutting Edge	19.5 kg
For 203-mm Cutting Edge	23 kg
Heavy-Duty Dual-Input Circle-Drive Gearbox	14 kg
Circle-Drive Slip Clutch	9 kg
Circle	
Standard	0 kg
Premium	289 kg
Moldboard Impact-Absorption System	43 kg
Ripper/Scarifier, Rear Mounted With Hitch and Ripper Shanks (3)	1139 kg
Scarifier Shanks With Teeth (9 for rear ripper/scarifier)	68 kg
Ripper Shanks and Teeth (2)	63 kg
Rear Counterweight With Integral Rear Hitch	727 kg
Rear Hitch	54.4 kg
Push Block, Front	1338 kg

Machine Dimensions

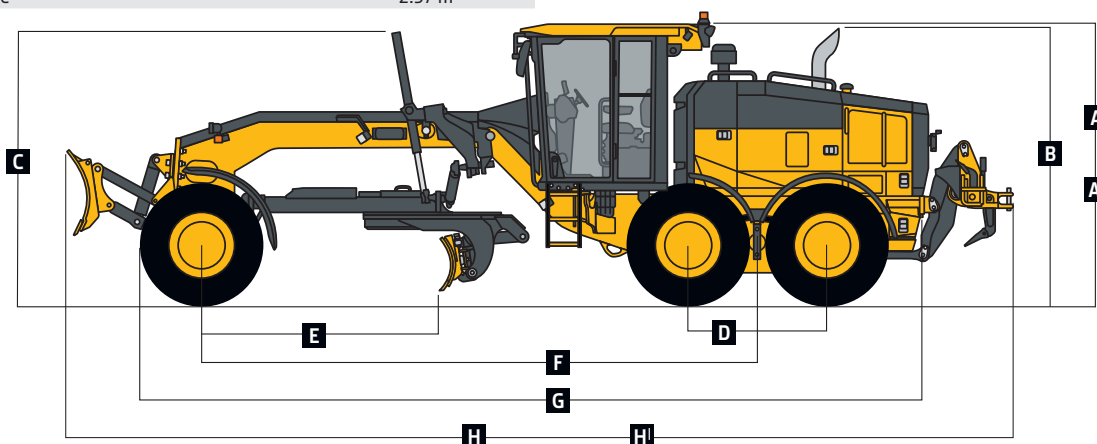
A Height to Top of Cab	3.18 m
A^I Height to Top of Full-Height Cab	3.40 m
B Height to Top of Exhaust	3.10 m
C Height to Top of Blade-Lift Cylinders	3.05 m
D Tandem Axle Spacing	1.54 m
E Blade Base	2.57 m

Option Weights (continued)	770GP
Scarifier, Mid-Mount With Teeth (11)	1481 kg
Front Dozer Blade	1039 kg
Tires	
14.00-24, 12 PR G2	-220.4 kg
17.5-25, 12 PR G2/L2	-106 kg
14.00-R24, Radial, G2/L2 General Purpose	0 kg
14.00-R24, Radial, G2/L2 Snow	40.8 kg
17.5-R25, Radial, L2 General Purpose	51.7 kg
17.5-R25, Radial, G2/L2 Snow	95.3 kg
17.5-R25, Radial, G3/L3 General Purpose	141.5 kg
550/65R25 XLD70 G3/L3 Radial, General Purpose	495.3 kg
1-Piece Rims	
229 mm x 610 mm	0 kg
330 mm x 635 mm	65.3 kg
Multi-Piece Rims	
254 mm x 610 mm	179.6 kg
356 mm x 635 mm	266.7 kg
432 mm x 635 mm	321.1 kg
Fenders	
Front	99 kg
Rear	141 kg
Low Cab With Opening Front and Side Windows	14.5 kg
Premium Air-Suspension, Heated Seat With Adjustable Arm- and Headrests	13 kg
Coolant Heater	4 kg
Quick Service	11 kg
Secondary Steering	26 kg
Beacon Bracket	8 kg
Fire Extinguisher	14.5 kg
Lighting Packages – 16 LED Lights	7 kg
Front and Rear Light Bar Extensions	48 kg
Auxiliary Hydraulic Control Valve Section and Controls	7 kg
Hydraulics for Front-Mounted Equipment	9 kg

Machine Dimensions (continued)

F Wheelbase	6.16 m
G Overall Length	8.89 m
H Overall Length With Push Block and Ripper	9.99 m
H^I Overall Length With Front-Mounted Blade and Ripper	10.60 m

For Overall Width see Tires/Wheels on page 24.





870GP SPECIFICATIONS

Engine	870GP		
Manufacturer and Model	John Deere PowerTech™ PSS 9.0L		
Non-Road Emission Standard	EU Stage V		
Cylinders	6		
Displacement	9.0L		
Net Engine Power			
Gear 1	168 kW		
Gear 2	175 kW		
Gear 3	187 kW		
Gear 4	190 kW		
Gear 5	198 kW		
Gear 6	201 kW		
Gear 7	205 kW		
Gear 8	209 kW		
Net Peak Torque	1430 Nm		
Net Torque Rise	53%		
Engine Bore and Stroke	118 x 136 mm		
Aspiration	Series turbocharged, charge-air cooled		
Lubrication	Full-flow spin-on filter and integral cooler		
Air Cleaner With Restriction Indicator	Dual element, dry		
Cooling			
Engine Coolant, Extended Life, Rating	-37 deg. C		
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. gear pump		
Gears			
Forward	8		
Reverse	8		
Maximum Travel Speeds	<i>No tire slip at 2,180 rpm, 17.5-R25 tires</i>	Maximum Travel Speeds (continued)	<i>No tire slip at 2,180 rpm, 17.5-R25 tires</i>
Gear 1	3.9 km/h	Gear 5	16.7 km/h
Gear 2	5.6 km/h	Gear 6	23.3 km/h
Gear 3	7.9 km/h	Gear 7	32.2 km/h
Gear 4	10.9 km/h	Gear 8	45.0 km/h*
*Maximum speed may be reduced for specific regions.			
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; automated return-to-straight feature		
Turning Radius (front steer and articulation)	7.21 m		
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.		
Maximum System Pressure	18 961 kPa		
Pump Displacement	90 cm ³		

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870GP SPECIFICATIONS



Blade Function		870GP
All-hydraulic, industry-standard lever placement of blade-function controls; includes float position; 7 discrete saddle positions		
Blade Range		
Lift Above Ground		452 mm
Blade Side Shift (right or left)		678 mm
Pitch at Ground Line		
Forward		42 deg.
Back		5 deg.
Shoulder Reach Outside Wheels (frame straight, right or left)		2320 mm
Bank Cut Angle (right or left)		90 deg.
Blade Pull		
At Maximum Operating Weight		15 501 kg
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		200 amp
Lights	Driving lights; high- and low-beam LED 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	
Height (minimum)	307 mm	
Thickness		
Side	16 mm	
Top and Bottom Plate	30 mm	
Modulus		
Minimum Vertical Section	1770 cm ³	
Average Vertical Section at Saddle	2635 cm ³	
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		
	<i>Standard Circle</i>	<i>Premium Circle</i>
Circle Diameter	1524 mm	1524 mm
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	787 mm
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	
Height (measured along arc, including cutting edge)	686 mm	
Thickness	25 mm	

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870GP

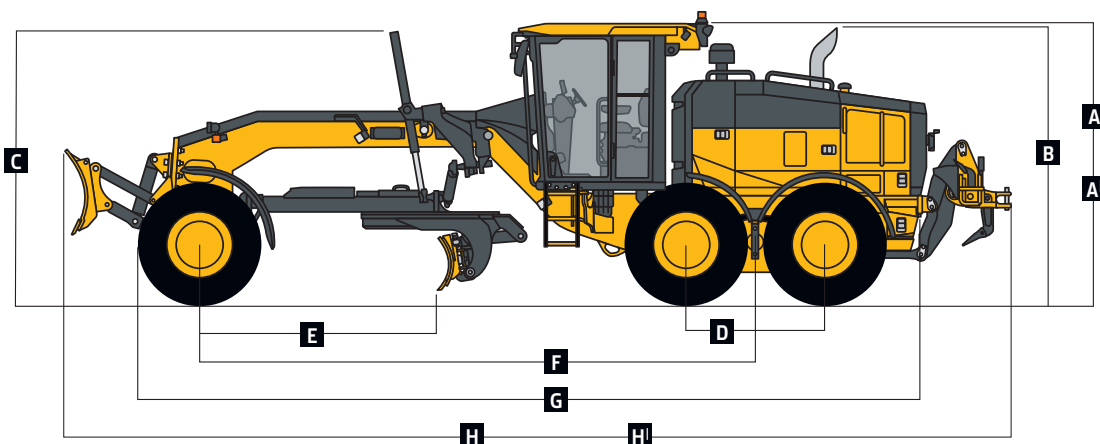
Cutting Edge		870GP	
Dura-Max™ through-hardened steel edge			
Thickness	19 mm		
Width	203 mm		
Scarifier			
<i>Mid-mount</i>			
Type	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch position with hydraulic float		
Width of Cut	1.19 m		
Number of Shanks/Teeth	11		
Lift Above Ground	335 mm		
Maximum Depth	325 mm		
Shank			
Spacing	117 mm		
Size	25 x 76 mm		
Front Dozer Blade			
Parallel linkage, hydraulic float			
Lift Above Ground	706 mm		
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	2.18 m	
Number of Shanks/Teeth	3 (maximum capacity 5)	None standard (maximum capacity 9)	
Lift Above Ground	602 mm	810 mm	
Maximum Depth	426 mm	323 mm	
Force			
Penetration	10 238 kg	—	
Pry-Out	13 412 kg	—	
Shank Size	61.5 x 133 mm	25 x 76 mm	
Operator Station			
Low-profile cab with ROPS (ISO 3471-2008) and FOPS (ISO 3449-2005)			
Tires/Wheels			
	<i>17.5R25 on 356-mm Rim</i>	<i>550/65R25 on 432-mm Rim</i>	<i>20.5R25 on 432-mm Rim</i>
Wheel Tread on Ground	2.16 m	2.21 m	2.32 m
Overall Width	2.64 m	2.82 m	2.8 m
Ground Clearance (front axle)	587 mm	612 mm	640 mm
Serviceability			
Refill Capacities			
Fuel Tank	416.5 L		
Diesel Exhaust Fluid (DEF) Tank	22.5 L		
Cooling System	55.0 L		
Engine Oil With Filter	28.4 L		
Transmission Fluid	23.5 L		
Differential Housing	38.0 L		
Tandem Housings (each)	74.0 L		
Circle Gearbox	5.7 L		
Hydraulic Reservoir	60.5 L		
Operating Weights			
With Full Fuel Tank, 4.27-m x 686-mm x 25-mm Moldboard With 203-mm x 19-mm Cutting Edges, 17.5R25 L2 Tires, and 79-kg Operator			
Front	4531 kg		
Rear	12 487 kg		
Total	17 019 kg		
Typical Operating Weight With Front Dozer Blade, Rear Ripper/Scarifier, and Other Equipment			
Front	5888 kg		
Rear	14 733 kg		
Total	20 620 kg		
Maximum Operating Weight	24 948 kg		

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Option Weights	870GP
Moldboards With Through-Hardened Dura-Max Cutting Edge	
4.27 m x 686 mm x 25 mm With 203-mm x 19-mm Cutting Edge and 16-mm Hardware	0 kg
4.27 m x 686 mm x 25 mm With 203-mm x 19-mm Cutting Edge and 19-mm Hardware	9.5 kg
4.88 m x 686 mm x 25 mm With 203-mm x 19-mm Cutting Edge and 19-mm Hardware	137 kg
Extensions, 610 mm (right or left)	
For Use With 686-mm Moldboards	120 kg
Overlay End Bits, Reversible (one pair)	
For 203-mm Cutting Edge	23 kg
Heavy-Duty Dual-Input Circle-Drive Gearbox	14 kg
Circle-Drive Slip Clutch	9 kg
Circle	
Standard	0 kg
Premium	255 kg
Moldboard Impact-Absorption System	43 kg
Ripper/Scarifier, Rear Mounted With Hitch and Ripper Shanks (3)	1139 kg
Scarifier Shanks With Teeth (9 for rear ripper/scarifier)	68 kg
Ripper Shanks and Teeth (2)	63 kg
Rear Counterweight With Integral Rear Hitch	727 kg
Rear Hitch	54.4 kg
Push Block, Front	1338 kg
Scarifier, Mid-Mount With Teeth (11)	1481 kg
Front Dozer Blade	1110 kg
Machine Dimensions	
A Height to Top of Cab	3.18 m
A^I Height to Top of Full-Height Cab	3.40 m
B Height to Top of Exhaust	3.10 m
C Height to Top of Blade-Lift Cylinders	3.05 m
D Tandem Axle Spacing	1.54 m
E Blade Base	2.57 m

Option Weights (continued)	870GP
Tires	
17.5-R25, Radial, L2 General Purpose	0 kg
17.5-R25, Radial, G2/L2 Snow	43.5 kg
17.5-R25, Radial, G3/L3 General Purpose	90 kg
550/65R25 XLD70 G3/L3 Radial, General Purpose	444 kg
20.5-R25, Radial, L2 Snow	414 kg
20.5-R25, Radial, L2 General Purpose	474 kg
1-Piece Rims	
330 mm x 635 mm	-201.4 kg
Multi-Piece Rims	
356 mm x 635 mm	0 kg
432 mm x 635 mm	54.4 kg
Fenders	
Front	99 kg
Rear	141 kg
Low Cab With Opening Front and Side Windows	14.5 kg
Premium Air-Suspension, Heated Seat With Adjustable Arm- and Headrests	13 kg
Coolant Heater	4 kg
Quick Service	11 kg
Secondary Steering	26 kg
Beacon Bracket	8 kg
Fire Extinguisher	14.5 kg
Lighting Packages – 16 LED Lights	7 kg
Front and Rear Light Bar Extensions	48 kg
Auxiliary Hydraulic Control Valve Section and Controls	7 kg
Hydraulics for Front-Mounted Equipment	9 kg
Machine Dimensions (continued)	
F Wheelbase	6.16 m
G Overall Length	8.89 m
H Overall Length With Push Block and Ripper	9.99 m
H^I Overall Length With Front-Mounted Blade and Ripper	10.60 m

For Overall Width see Tires/Wheels on page 28.



While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

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 GP cab with opening lower front and side windows
▲	▲	▲	▲	Low-profile GP cab utilizing laminated glass with fixed lower front and side opening windows
●	●	●	●	Keyless start with multiple security modes
●	●	●	●	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)
●	●	●	●	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 (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
●	●	●	●	200-amp alternator
●	●	●	●	Batteries (2), 1,400 CCA with 440-min. reserve capacity
▲	●	●	●	Left-hand engine compartment service-check light
▲	▲	▲	▲	Right-hand engine compartment service-check light
●	●	●	●	Premium grading lights (16 LED lights)
●	●	●	●	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
▲	▲	▲		4.27 m x 610 mm x 22 mm
	▲	▲	●	4.27 m x 686 mm x 25 mm
		▲		4.88 m x 686 mm x 25 mm
●	●	●	●	Quick-change and jackscrew-adjustable moldboard side-shift extreme-duty wear inserts
▲	▲	▲		610-mm left- or right-hand extensions for 610-mm moldboard
		▲	▲	610-mm left- or right-hand extensions for 686-mm 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
●	●	●	●	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

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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 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 R 24 L2 Radial tires on 229 mm x 610 mm one piece rims and 3.66-m x 610-mm x 22-mm high-strength, wear-resistant moldboards with 16-mm x 152-mm Dura-Max® through-hardened-steel cutting edges for the 620GP, 670GP, and 770GP; and 17.5 R 25 L2, Radial tires on 356-mm x 635-mm multi-piece rims and 4.27-m x 686-mm x 25-mm high-strength, wear-resistant moldboards with 19-mm x 203-mm Dura-Max through-hardened-steel cutting edges for the 870GP. Weights include lubricants, coolants, full fuel tanks, and 79-kg operators.

Additional equipment *(continued)*

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

620	670	770	870	Overall Vehicle <i>(continued)</i>	620	670	770	870	Front Attachments
●	●	●	●	Environmental drains with hoses for engine, transmission, hydraulic, differential fluids, and engine coolant	▲	▲	▲	▲	Front push block
●	●	●	●	Hydraulically driven cool-on-demand reversing fan	▲	▲	▲	▲	Mid-mount scarifier with float position, 11 shanks
●	●	●	●	Banked easy-access vertical spin-on filters for hydraulic, transmission, and axle fluids	▲	▲	▲	▲	Front Balderson-style lift group with float position
●	●	●	●	Engine rotary ejector precleaner	▲	▲	▲	▲	Front-mounted dozer blades
●	●	●	●	Automatic differential lock	Rear Attachments				
●	●	●	●	Engine-stall prevention and auto shutdown	●	●	●	●	Full bottom guard with access panel and side guards for rear vehicle protection
▲	▲	▲	▲	Adjustable rotary engine precleaner	▲	▲	▲	▲	Rear-mounted ripper/scarifier combination with rear hitch and pin, 3 ripper shanks
	▲	●	●	Heavy-duty air cleaner	▲	▲	▲	▲	Rear counterweight with rear hitch and pin
●	●	●		Single-input circle drive	▲	▲	▲	▲	Rear hitch and pin
▲	▲	▲		Single-input circle drive with slip clutch	▲	▲	▲	▲	Extra scarifier shanks (9) with teeth for rear ripper scarifier
	▲	▲	●	Heavy-duty dual-input circle drive without slip clutch		▲	▲	▲	Extra ripper shanks (2) with teeth for rear ripper/scarifier
	▲	▲	▲	Heavy-duty dual-input circle drive with slip clutch	Grade Pro (GP) Option				
▲	▲	▲	▲	Premium circle	●	●	●	●	Low-profile GP cab with opening lower front and side windows
●	●	●	●	Auto-Shift transmission	▲	▲	▲	▲	Low-profile GP cab utilizing laminated glass with fixed lower front and side opening windows
▲	▲	▲	▲	Auto-Shift PLUS transmission	●	●	●	●	Premium heated, leather/fabric, high-wide-back, air-suspension seat with armrests
▲	▲	▲	▲	Blade-impact-absorption system	▲	▲	▲	▲	Dual-joystick controls
▲	▲	▲	▲	Front and/or rear wheel fenders	▲	▲	▲	▲	Fingertip armrest-mounted controls including steering lever
▲	▲	▲	▲	Quick-service bank for transmission, hydraulic, engine oil, and engine coolant fluid changes	●	●	●	●	Steering wheel
●	●	●	●	Secondary steering	●	●	●	●	Cross slope
▲	▲	▲	▲	Wheel chocks	●	●	●	●	Return to straight
Automation (standard on SmartGrade™ models, optional on GP models)					Grade Control				
▲	▲	▲	▲	Automation Suite	▲	▲	▲	▲	SmartGrade
▲	▲	▲	▲	Auto-Articulation	▲	▲	▲	▲	Mast mounts
▲	▲	▲	▲	Auto-Gain for Cross Slope	▲	▲	▲	▲	Topcon ready
▲	▲	▲	▲	Auto-Pass	▲	▲	▲	▲	Trimble ready
▲	▲	▲	▲	Blade Flip					
▲	▲	▲	▲	Machine Presets					
▲	▲	▲	▲	Machine-Damage Avoidance					

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DKAGGDRTEU Litho in U.S.A. (21-10)