

G-SERIES 4WD
MOTOR GRADERS



JOHN DEERE

620GP / 670GP / 770GP / 870GP



**CHOOSE HOW
YOU WORK**



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		

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.

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	

620GP

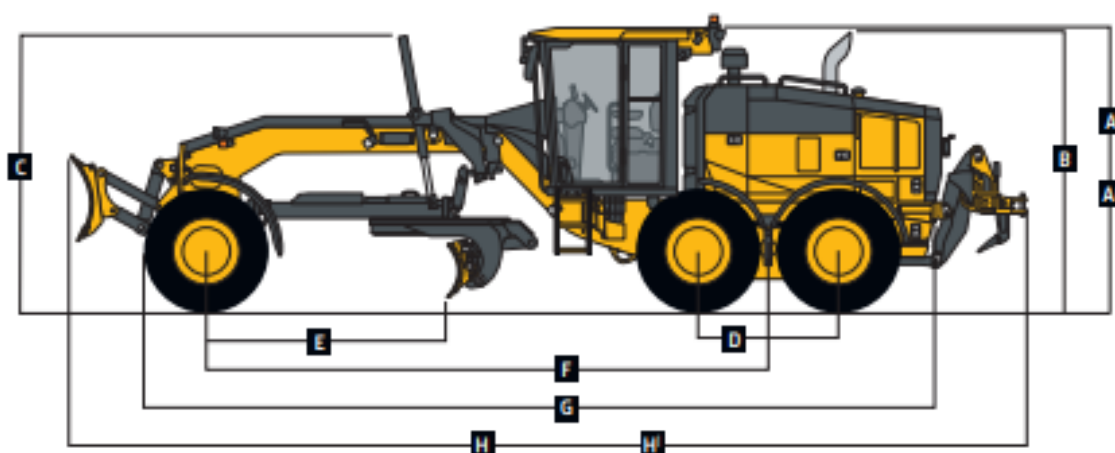
Cutting Edge	620GP	
Dura-Max™ through-hardened steel edge		
Thickness	16 mm	
Width	152 mm	
Scarifier	Mid-mount	
Type	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch position with hydraulic float	
Width of Cut	1.19 m	
Number of Shanks/Teeth	11	
Lift Above Ground	335 mm	
Maximum Depth	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	

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	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	157.4 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' 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' 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		

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.

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	

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.

670GP

Cutting Edge		670GP
Dura-Max™ through-hardened steel edge		
Thickness	16 mm	
Width	152 mm	
Scarifier		
Type	Mid-mount	
Width of Cut	Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch position with hydraulic float	
Number of Shanks/Teeth	11	
Lift Above Ground	119 m	
Maximum Depth	335 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		
	14R24 on 254-mm Rim	17.5R25 on 356-mm Rim
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	157.4 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' 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' Overall Length With Front-Mounted Blade and Ripper	10.60 m

For Overall Width see *Tires/Wheels* on page 20.

