870G 4WD SPECIFICATIONS

ENGINE

Manufacturer and Model
John Deere PowerTech™ 9.0 L

Non-Road Emission Standard
EPA Tier 2/EU Stage II

Cylinders
6

Displacement
9,0 L (548 cu. in.)

Net Engine Power

Gear 1	153 kW (205 hp)
Gear 2	164 kW (220 hp)
Gear 3	175 kW (235 hp)
Gear 4	183 kW (245 hp)
Gear 5	187 kW (250 hp)
Gear 6	194 kW (260 hp)
Gear 7	198 kW (265 hp)
Gear 8	201 kW (270 hp)

Net Peak Torque
1 329 Nm (980 lb.-ft.)

Net Torque Rise
57%

Aspiration
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 (-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 tyre slip at 2,180 rpm, 14.0-R24 tyres

Gear 1	3,9 km/h (2.4 mph)
Gear 2	5,6 km/h (3.5 mph)
Gear 3	7,9 km/h (4.9 mph)
Gear 4	10,9 km/h (6.8 mph)
Gear 5	16,7 km/h (10.4 mph)
Gear 6	23,3 km/h (14.5 mph)
Gear 7	32,2 km/h (20.0 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.)

BLADE FUNCTION

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):
2 329 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 Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II

Voltage:
24 volt

Number of Batteries:
2

Battery Capacity:
1 400 CCA

Reserve Capacity:
440 min.

Amp-Hour Rating:
224 amp-hour

Alternator Rating:

Base:	100 amp
Optional:	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 (1.17in.)

Modulus:
Minimum Vertical Section:
1 770 cm^3 (108 cu. in.)

Average Vertical Section at Saddle:
2 635 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

Circle Diameter:
1 524 mm (60 in.)

Rotation:
360 deg.

Drive:
Hydraulic motor and worm gear with positive lock

Circle Side Shift (right and left):
787 mm (31 in.)

MOLDBOARD

High-strength, pre-stressed for higher strength; wear-resistant, high-carbon steel and reversible end bits; blade side-shift wear system includes quick-change replaceable wear inserts and quick-adjust jackscrew system

Base Length:
4,88 m (16 ft.)

Height (measured along arc, including cutting edge):
686 mm (27 in.)

Thickness:
25 mm (1in.)

CUTTING EDGE

Dura-Max™ through-hardened steel edge

Thickness:
19 mm (0.75 in.)

Width:
203 mm (8 in.)

SCARIFIERS

Type
Front: V-type toolbar with manual 2-pitch positions and hydraulic float.

Mid-Mount: Radial linkage, with NeverGrease™ pin joints; V-type manual 3-pitch positions and hydraulic float

Width of Cut
Front: 1,20 m (48 in.) (4 ft. 0 in.)

Mid-Mount: 1,19 m (46.7 in.) (3 ft. 11 in.)

Number of Shanks/Teeth
Front: 5 (maximum capacity 9)

Mid-Mount: 11

Lift Above Ground
Front: 589 mm (23.2 in.)

Mid-Mount: 335 mm (13.2 in.)

Maximum Depth
Front: 335 mm (13.2 in.)

Mid-Mount: 325 mm (12.8 in.)

Shank: Spacing
Front: 146 mm (5.75 in.)

Mid-Mount: 117 mm (54.6 in.)

Shank: Size
Front: 25 x 76 mm (1 x 3 in.)

Mid-Mount: 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):
1 864 mm (73.4 in.)

Range:
988 mm (38.9 in.)

REAR RIPPER/SCARIFIER

Parallel linkage, with NeverGrease pin joints, hydraulic float, and integrated hitch

Width of Cut
Ripper: 2.21 m (87.2 in.) (7 ft. 3 in.)

Scarifier: 2.18 m (86 in.) (7 ft. 2 in.)

Number of Shanks/Teeth
Ripper: 3 (maximum capacity 5)

Scarifier: None standard (maximum capacity 9)

Lift Above Ground
Ripper: 602 mm (23.7 in.)

Scarifier: 810 mm (31.9 in.)

Maximum Depth
Ripper: 426 mm (16.8 in.)

Scarifier: 323 mm (12.7 in.)

Force at Typical FT4 Weight Penetration
Ripper: 10 087 kg (22,238 lb.)

Pry-Out
Ripper: 13 185 kg (29,068 lb.)

Shank Size
Ripper: 61,5 x 133 mm (2.42 x 5.25 in.)

Scarifier: 25 x 76 mm (1 x 3 in.)

OPERATOR STATION

Low-profile cab with ROPS (ISO 3471-2008) and FOPS (ISO 3449-2005)

TYRES/WHEELS

Optional:
14R24 on 254-mm (10 in.) Rim
- Wheel Tread on Ground:
2,08 m (82.0 in.)
- Overall Width:
2,49 m (98.0 in.)
- Ground Clearance (front axle):
587 mm (23.1 in.)

Standard:
17.5R25 on 356-mm (14 in.) Rim
- Wheel Tread on Ground:
2,16 m (85.0 in.)
- Overall Width:
2,64 m (104.0 in.)
- Ground Clearance (front axle):
587 mm (23.1 in.)

550/65R25 on 432-mm (17 in.) Rim
- Wheel Tread on Ground:
2,21 m (87.0 in.)
- Overall Width:
2,77 m (109.0 in.)
- Ground Clearance (front axle):
612 mm (24.1 in.)

SERVICEABILITY

Refill Capacities:
EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II

Fuel Tank:
416,5 L (110 gal.)

Cooling System:
48,5 L (12.8 gal.)

Engine Oil with Filter:
27,0 L (7.1 gal.)

Transmission Fluid:
28,4 L (7.5 gal.)

Differential Housing:
38,0 L (10 gal.)

Tandem Housings (each):
74,0 L (19.5 gal.)

Circle Gearbox:
5,7 L (1.5 gal.)

Hydraulic Reservoir:
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 5/8 in.) Cutting Edges, 17.5R25 L2 Tyres, and 79-kg (175 lb.)

Operator:
EPA Tier 3/EU Stage IIIA and EPA Tier 2/EU Stage II

Front:	4 540 kg (10,010 lb.)
Rear:	11 843 kg (26,110 lb.)
Total:	16 384 kg (36,120 lb.)

- Typical Operating Weight with Front Push Block, Rear Ripper/Scarifier, and Other Equipment

Front:	5 869 kg (12,940 lb.)
Rear:	13 689 kg (30,179 lb.)
Total:	19 558 kg (43,119 lb.)

Maximum Operating Weight:
24 948 kg (55,000 lb.)

MACHINE DIMENSIONS

A	Height to Top of Cab	3,18 m (10 ft. 5 in.)
AI	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.)

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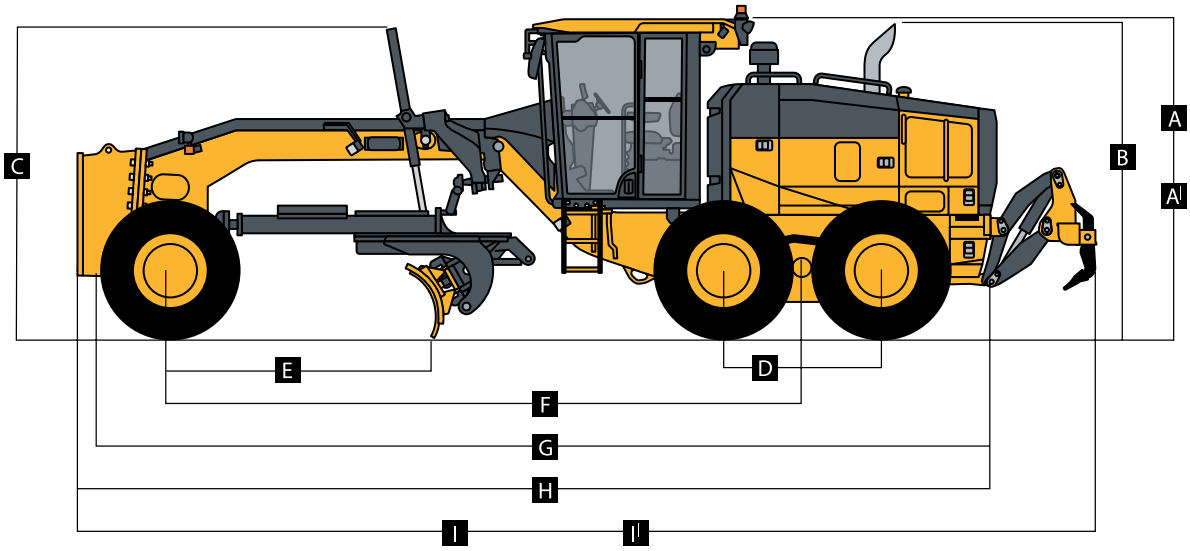
F	Wheelbase	6,16 m (20 ft. 3 in.)
G	Height to Top of Full-Height Cab	8,89 m (29 ft. 2 in.)
H	Height to Top of Exhaust	9,69 m (31 ft. 9 in.)
I	Height to Top of Blade-Lift Cylinders	9,99 m (32 ft. 9 in.)
I'	Tandem Axle Spacing	10,59 m (34 ft. 9 in.)

For Overall Width see Tyres/Wheels



Option Weights	870G 4WD
Moldboards with Through-Hardened Dura-Max Cutting Edge	
3,66 m x 686 mm x 25 mm (12 ft. x 27 in. x 1 in.) with 203 mm x 19 mm (8 in. x 3⁄4 in.) cutting edge and 16 mm (5⁄8 in.) hardware	-126 kg (-278 lb.)
3,96 m x 686 mm x 25 mm (13 ft. x 27 in. x 1 in.) with 203 mm x 19 mm (8 in. x 3⁄4 in.) cutting edge and 16 mm (5⁄8 in.) hardware	-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 3⁄4 in.) cutting edge and 16 mm (5⁄8 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 3⁄4 in.) cutting edge and 19 mm (3⁄4 in.) hardware	9,5 kg (21 lb.)
Extensions, 610 mm (2 ft.) (right or left)	
For Use with 610 mm (24 in.) Moldboards	120 kg (265 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.)
Moldboard Impact-Absorption System	43 kg (95 lb.)
Ripper/Scarifier, Rear Mounted with Hitch and Ripper Shanks (3)	1 139 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	1 338 kg (2,950lb.)
Scarifier	
Teeth (5)	831 kg (1,833 lb.)
Mid-Mount with Teeth (11)	1 481 kg (3,265 lb.)
Front Lift Group (Balderson-style)	763 kg (1,682 lb.)
Tyres	
14.00-24, 12 PR G2	-272 kg (-600 lb.)
17.5-25, 12 PR G2/L2	-158 kg (-348 lb.)
14.00-R24, Radial, G2/L2 General Purpose	-52 kg (-114 lb.)
14.00-R24, Radial, G2/L2 Snow	-11 kg (-24 lb.)
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)
Multi-Piece Rims	
254 mm x 610 mm (10 in. x 24 in.)	-87 kg (-192 lb.)
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	77 kg (169 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.)
16 Halogen Lights	7 kg (16 lb.)
18 Halogen Lights	8 kg (18 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.)