



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

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 cm³ (5.5 cu. in.)

BLADE FUNCTION

All-hydraulic, industry-standard lever placement of blade-function controls; includes float position; 7 discrete saddle positions

Blade Range

Lift Above Ground: 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

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 (1.17 in.)

Modulus:

Minimum Vertical Section: 1 770 cm³ (108 cu. in.)

Average Vertical Section at Saddle:

2 635 cm³ (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 (1 in.)

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

Standard:

17.5x25 L4

• Wheel Tread on Ground:

2,16 mm (85.0 in.)

• Overall Width:

2,64 m (104.0 in.)

• Ground Clearance (front axle):

587 mm (23.1 in.)

SERVICEABILITY

Refill Capacities:

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:

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.)

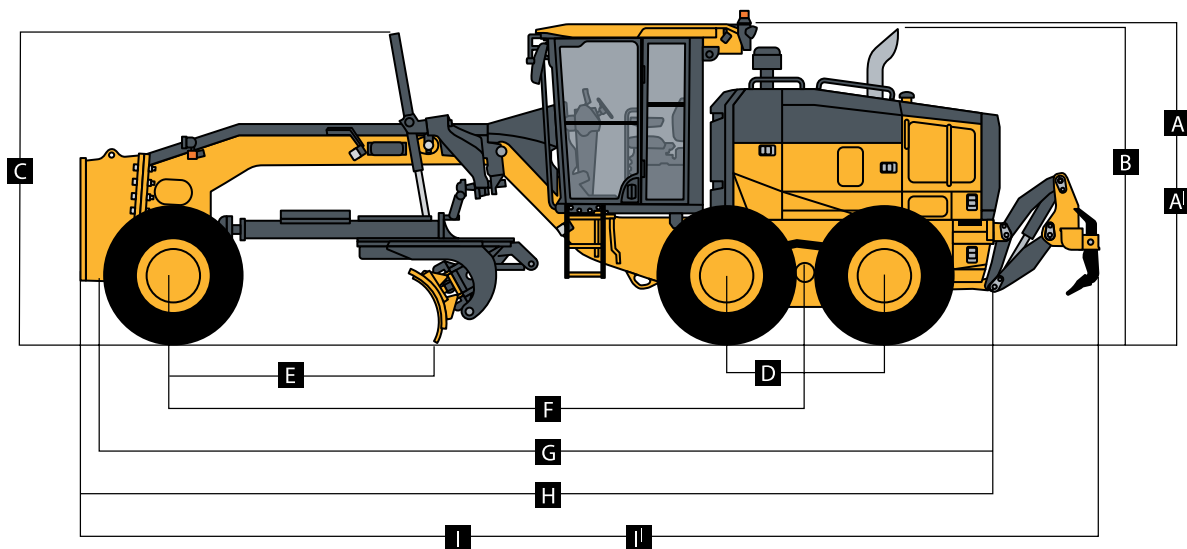
MACHINE DIMENSIONS

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.)

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'	Overall Length with Scarifier and Ripper	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

Circle-Drive Slip Clutch.....	14 kg (31 lb.)
Moldboard Impact-Absorption System	9 kg (20 lb.)
Ripper/Scarifier, Rear Mounted with Hitch and Ripper Shanks (3).....	43 kg (95 lb.)
Scarifier Shanks with Teeth (9 for rear ripper/scarifier)	1 139 kg (2,510 lb.)
Ripper Shanks and Teeth (2)	68 kg (150 lb.)
Rear Counterweight with Integral Rear Hitch.....	63 kg (139 lb.)
Rear Hitch.....	727 kg (1,603 lb.)
Push Block, Front	54,4 kg (120 lb.)
	1 338 kg (2,950 lb.)

Scarifier

Teeth (5).....	831 kg (1,833 lb.)
Mid-Mount with Teeth (11)	1 481 kg (3,265 lb.)

Front Lift Group (Balderson-style)

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

Premium Air-Suspension, Heated Seat with Adjustable Arm- and Headrests	14,5 kg (32 lb.)
Coolant Heater	13 kg (28 lb.)
Quick Service	4 kg (9 lb.)
Sound-Absorption Package (machines equipped with Tier 3/Stage IIIA and Tier 2/Stage II engines only).....	11 kg (24 lb.)
Secondary Steering	14 kg (31 lb.)
Beacon Bracket	26 kg (58 lb.)
Fire Extinguisher	8 kg (18 lb.)
	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.....

Auxiliary Hydraulic Control Valve Section and Controls	20 kg (44 lb.)
Hydraulics for Front-Mounted Equipment.....	7 kg (15 lb.)
	9 kg (19 lb.)