

872D

ALL WHEEL DRIVE
MOTOR GRADER



key features

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|---------------------------|-----------|
| • Drive | 6WD |
| • Gross Power | 194 kW |
| • Net Torque | 1303 Nm |
| • Operating Weight | 19 159 kg |



872D ALL-WHEEL-DRIVE MOTOR GRADER

ENGINE

Type	Deere PowerTech™ 6081H; meets EPA Tier II non-road emissions regulations
Rated Speed	2,000 rpm
Engine Power	
Gears 1-2 (6WD on)	163 kW (219 gross hp)/153 kW (205 net hp)
Gears 3-5 (6WD on)	182 kW (243 gross hp)/172 kW (230 net hp)
Gears 6-7 (6WD on)	194 kW (261 gross hp)/183 kW (245 net hp)
Gear 8 (6WD off)	187 kW (251 gross hp)/175 kW (235 net hp)
Aspiration	Turbocharged with waste-gate boost pressure regulation and air-to-air aftercooler
Number of Cylinders	6
Displacement	8.1 ℓ (494 cu.in)
Fuel Consumption, Typical (depending on duty cycle)	17.0 to 41.3 ℓ/h (4.5 to 10.9 gal/hr)
Net Torque @ 1,000 rpm	6WD off
Gears 1-2	1075 Nm (793 lbf) @ 57% net torque rise
Gear 3	1132 Nm (835 lbf) @ 52% net torque rise
Gears 4-5	1182 Nm (872 lbf) @ 48% net torque rise
Gears 6-7	1277 Nm (942 lbf) @ 56% net torque rise
Gear 8	1277 Nm (942 lbf) @ 56% net torque rise
Net Torque @ 1,000 rpm	6WD on
Gears 1-2	1132 Nm (835 lbf) @ 52% net torque rise
Gear 3	1215 Nm (896 lbf) @ 46% net torque rise
Gears 4-5	1215 Nm (896 lbf) @ 46% net torque rise
Gears 6-7	1303 Nm (961 lbf) @ 53% net torque rise
Gear 8	N/A

Lubrication	Pressure system with full-flow filter and cooler
Air Cleaner with Restriction Indicator	Dual element, dry, with tangential unloader
Electrical System	24 volt with 100 amp alternator
Batteries (two 12 volt)	1,400 cold-cranking amps, 440 min reserve capacity

STEERING

	All-hydraulic power frame articulation for maneuverability and productivity; crab steering reduces side drift, positions tandems on firm ground, and increases side slope stability. Front steer plus articulated.
Articulation (both left and right)	22 degrees
Turning Radius (front steer plus articulation)	7.16 m (23 ft 6 in)
Front Wheel Lean	20 degrees

SIX-WHEEL DRIVE

	Automatic dual path; increases tractive effort and front-end control; includes separate left and right systems with variable-displacement pumps, axial piston wheel motors, free wheel at transport speeds, operator-selectable 15-position rotary aggressiveness control, inching capability down to 0 mph, and on/off control.
Effective in Gears 1-7 Forward and Reverse Hydrostatic Pumps (2) Wheel Motors, Variable Displacement Final Reduction	64 cm ³ (3.9 cu.in) each 20 to 60 cm ³ (1.2 to 3.7 cu.in) 38.7:1

TYRES AND RIMS

Tyre Size	Front	Rear
14.00-24 on 254 mm (10 in) Rim		
Wheel Tread (on ground)	2.08 m (82 in)	2.08 m (82 in)
Overall Width (top of tires)	2.51 m (99 in)	2.49 m (98 in)
Ground Clearance (front axle)	587 mm (23.1 in)	
17.5-25 on 356 mm (14 in) Rim		
Wheel Tread (on ground)	2.16 m (85 in)	2.16 m (85 in)
Overall Width (top of tires)	2.64 m (104 in)	2.64 m (104 in)
Ground Clearance (front axle)	587 mm (23.1 in)	

PRODUCTIVITY

Blade Pull @ Maximum Weight and 0.9 Coefficient of Traction	19 849 kg (43,760 lb)
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OPERATING WEIGHTS

SAE Operating Weights With Standard Equipment	
Front	4613 kg (10,170 lb)
Rear	11 812 kg (26,040 lb)
Total	16 421 kg (36,210 lb)

Typical Operating Weights with

Front Push Block and Ripper	
Front	5262 kg (11,600 lb)
Rear	13 897 kg (30,640 lb)
Total	19 159 kg (42,240 lb)

Maximum Operating Weight (snowequipment)

Rear	14 777 kg (32,576 lb)
Total	22 045 kg (48,620 lb)

TRANSMISSION

Type	Direct-drive John Deere Autoshift Plus™, modulated shift on-the-go, Event-Based Shifting (EBS), inching pedal
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Travel Speeds (with no tire slip)	@ 2,000 rpm with 14.00-24 tires
Shift Lever Position 1	3.7 km/h (2.3 mph)
Shift Lever Position 2	5.2 km/h (3.3 mph)
Shift Lever Position 3	7.2 km/h (4.5 mph)
Shift Lever Position 4	10.0 km/h (6.3 mph)
Shift Lever Position 5	15.2 km/h (9.5 mph)
Shift Lever Position 6	21.3 km/h (13.3 mph)
Shift Lever Position 7	29.4 km/h (18.4 mph)
Shift Lever Position 8	41.1 km/h (25.7 mph)

FINAL DRIVES

	Spiral bevel differential, inboard-mounted planetary sealed in cooled, filtered oil; operator-controlled differential lock/unlock; 51 mm (2 in) pitch tandem drive chains
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FRONT AXLE

Heavy-duty, welded box construction	
Oscillation (total)	32 degrees
Wheel Lean (each direction)	20 degrees

BRAKES

	Foot-controlled, hydraulically operated, multiple wet-disc brakes sealed in cooled, filtered oil; self adjusting, maintenance free; includes spring-applied, hydraulically released parking brake; both independent braking system effective on all four tandem wheels
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HYDRAULIC SYSTEM

Type	Closed center, pressure compensated load sensing (PCLS), variable-displacement piston pump, O-ring face seal fittings
Hydraulic Pump	90 cm ³ (5.5 cu.in)
Rated Flow @ 2,000 rpm	207 l/min (54.7 gpm)
Maximum System Pressure	2,750 psi

BLADE FUNCTION

	All-hydraulic preferred hand-lever placement of blade-function controls; includes float position; easy conversion from two-hand to one-hand blade-lift control; seven blade-lift arm positions.
Blade Range	
Lift Above Ground	437 mm (17.2 in)
Blade Side Shift, Right or Left	680 mm (26.9 in)
Shoulder Reach Outside Wheels (Frame Straight)	
Right	2.31 m (91 in)
Left	2.32 m (91.5 in)
Pitch at ground Line	42 degrees forward/5 degrees back

ROPS

Low-profile cab, and canopy ROPS (Rollover Protective Structure) meet criteria within SAE J1040MAY 1994, ISO 3471-1997, SAE J397MAY1994, and ISO 3164

MAINFRAME

Type	Welded box construction
Width, Minimum	306.5 mm (12.07 in)
Height, Minimum	270 mm (10.63 in)
Thickness	
Sides	16 mm (0.63 in)
Top and Bottom	32 mm (1.26 in)
Weight per m, Minimum	204 kg/m (137 lb/ft)
Minimum Vertical Section Modulus	2166 cm ³ (132.2 cu.in)
Average Vertical Section Modulus at Saddle	3001 cm ³ (183.1 cu.in)

DRAFT FRAME

Welded box construction machined for flatness with double ball-and-socket pivot connection, equipped with replaceable wear inserts

CIRCLE

Type	Welded construction, heat treated for strength, machined for flatness, equipped with replaceable wear inserts.
Circle Diameter	1.52 m (60 in)
Rotation	360 degrees
Drive	Hydraulic motor and worm gear with positive lock
Side Shift	
Right	724 mm (28.5 in)
left	787 mm (31 in)

MOLDBOARD

Type	High-strength, pre-stressed, wear-resistant, high-carbon steel, equipped with replaceable side-shift wear inserts
Length	4.3 m (14 ft 0 in)
Height	686 mm (27 in)
Thickness	25 mm (1.0 in)

CUTTING EDGE

Type	Dura-Max® through-hardened steel edge
Thickness and Width	19 x 203 mm (0.75 x 8 in)

REAR RIPPER/SCARIFIER

Type	Parallelogram linkage with manual valve control and hydraulic float, tool bar for five ripper and nine scarifier shanks
Ripper	
Width of Cut	2.21 m (87 in)
Number of Shanks	3 standard, can hold up to 5
Lift Above Ground	544 mm (21.4 in)
Maximum Penetration	457 mm (18 in)
Shank Size	57 x 140 mm (2.25 x 5.5 in)
Scarifier	
Width of Cut	2.21 m (87 in)
Number of Teeth	can hold up to 9
Lift Above Ground	681 mm (26.8 in)
Maximum Penetration	323 mm (12.7 in)
Shank Size	25 x 76 mm (1 x 3 in)

CAPACITIES (U.S.)

Fuel Tank	401.2 l (106 gal)
Cooling System	49.2 l (13 gal)
Engine Lubrication, Including Filter	28.4 l (7.5 gal)
Transmission	22.7 l (6 gal)
Differential Housing	36 l (9.5 gal)
Tandem Housings (each)	75.7 l (20 gal)
Circle Gearbox	5.7 l (1.5 gal)
Hydraulic Reservoir	53 l (14 gal)

DIMENSIONS

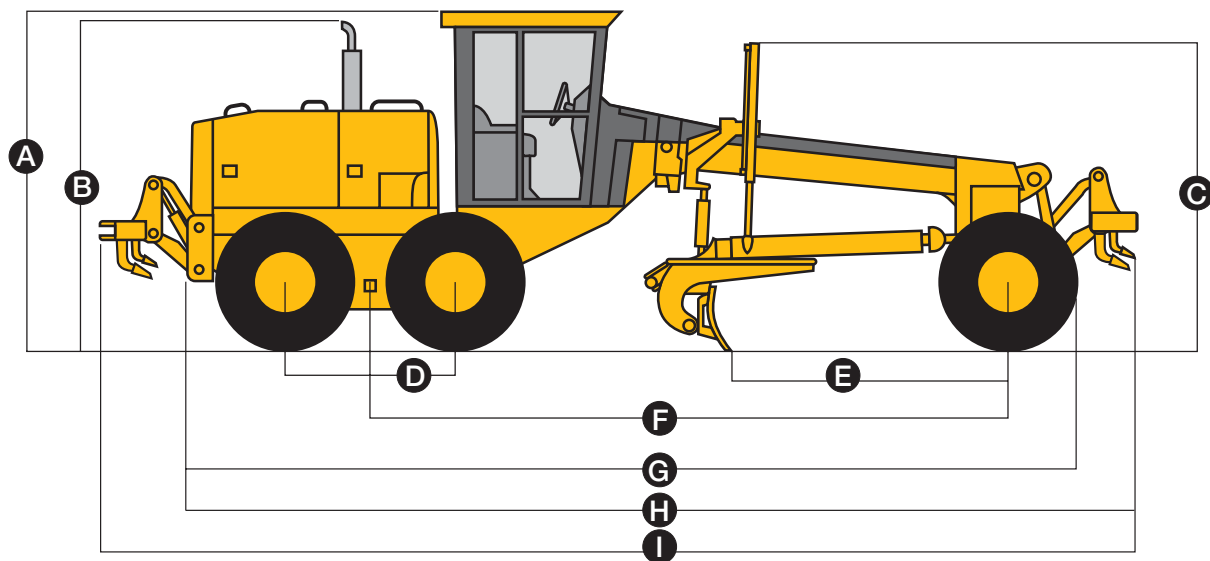
A Height to Top of Cab*	3.18 m (10 ft 5 in)
B Height to Top of Exhaust	3.10 m (122 in)
C Height to Top of Blade-Lift Cylinders	2.95 m (116 in)
D Tandem Axle Spacing	1.54 m (60.8 in)
E Blade Base	2.67 m (8 ft 9 in)
F Wheelbase	6.12 m (20 ft 1 in)
G Overall Length	8.80 m (28 ft 10 in)
H Overall Length with Scarifier	9.47 m (373 in)
I Overall Length with Scarifier and Ripper	10.36 m (408 in)

*Add 225 mm (8.9 in) for full-height cab.

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LINE DRAWING



OPTIONAL/SPECIAL EQUIPMENT

With Approximate Weights - Add these weights to SAE standard equipment operating weight to obtain total operating weight.

Coolant Heater	4 kg (8 lb)
Rotary Ejector Precleaner	8 kg (17 lb)
Lighting Packages	
For Grading (10 halogen lights)	4 kg (8 lb)
For Grading (10 halogen lights) with LED Turn Signals, Brake Lights, Markers Light, and Hazard Warning Lights	4 kg (8 lb)
Deluxe for Grading (16 halogen lights)	7 kg (16 lb)
Deluxe for Grading with 6 Extra LED Colored Lights (16 halogen lights)	8 kg (17 lb)
Deluxe for Grading with 6 LED Colored Lights (18 halogen lights)	9 kg (20 lb)
High-Front Light Bar for Snowplowing	20 kg (44 lb)
24 to 12 Volt 30 Amp Converter	1 kg (3 lb)
Auxiliary Hydraulic Control Valve Section and Controls (optional valves are available for attachments such as rear ripper, front-mounted scarifier, and snow equipment; see dealer price list for details)	7 kg (15 lb)
Hydraulics for Front-Mounted Equipment	9 kg (19 lb)
Moldboards with Through-Hardened Dura-Max® Cutting Edge	
12 ft x 27 in x 1 in with 8 in x 3/4 in cutting edge	-126 kg (-277 lb)
13 ft x 27 in x 1 in with 8 in x 3/4 in cutting edge	-72 kg (-158 lb)
Extensions, 2 ft (610 mm), Right or Left (less cutting edge)	
For Use with 27 in Moldboards	103 kg (228 lb)
Overlay End Bits, Reversible (one pair)	
For 8 in (203 mm) Cutting Edge	23 kg (50 lb)
Extended Wear Circle Wear Inserts	20 kg (43 lb)
Bottom Guard, Heavy Duty with Side Guards	177 kg (391 lb)

Front Weight	247 kg (550 lb)
Push Block, Front	907 kg (2,000 lb)
Rear Hitch	23 kg (50 lb)
Ripper/Scarifier, Rear Mounted with Hitch and Ripper Shanks (3)	1361 kg (3,000 lb)
Scarifier, Front Mounted with Teeth (5)	850 kg (1,874 lb)
Tires	
14.00-24, 12 PR G2	-180 kg (-396 lb)
17.5-25, 12 PR L2	-60 kg (-132 lb)
14.00-R24, Radial, XGLA-2	-60 kg (-132 lb)
14.00-R24, Radial, SnoPlus	35 kg (78 lb)
17.5-R25, Radial, XTLA	0 kg (0 lb)
17.5-R25, Radial, SnoPlus	79 kg (174 lb)
17.5-R25, Radial, XHA L3	150 kg (330 lb)
550/65R25, XTLA 70 L2	348 kg (768 lb)
Multi-Piece Rims	
10 in x 24 in	199 kg (438 lb)
12 in x 25 in	87 kg (192 lb)
14 in x 25 in	254 kg (561 lb)
Low Cab with Opening Front and Side Windows (air conditioning, heater ducts, and 3 in seat belt)	16 kg (35 lb)
Tall Cab with Fixed Front and Side Windows (air conditioning, heater ducts, and 3 in seat belt)	57 kg (126 lb)
Tall Cab with Opening Front and Side Windows (air conditioning, heater ducts, and 3 in seat belt)	60 kg (132 lb)
Canopy, Low Profile with ROPS (3 in seat belt)	-161 kg (-356 lb)
Deluxe Cloth Seat with Air Suspension and Adjustable Armrests and Headrest	13 kg (28 lb)
Wipers/Washers, Lower-Front Windows	4 kg (9 lb)

**Bold Italic Text: Optional or Special Equipment*

ENGINE

Meets EPA Tier II non-road emissions regulations
Self-diagnostic with service-code display
Rubber isolation mounting to reduce noise and vibration
Vertical spin-on engine oil filter
Air-to-air aftercooling for low-engine-speed lugging
Environmentally friendly engine oil drain valve and hose
Quick-release dual-stage fuel filter with primer pump
Final stage depth filter - fuel
Fuel/water separator and visual sediment bowl
Dual air cleaner elements, radial seal, dry type
Self-draining muffler with curved stack
Blower-type cooling fan with automatic tensioner
Variable horsepower
Electric fuel shutoff
Safety fan guard
Extended-life engine coolant -37°C (-34°F)
Engine coolant surge tank
Serpentine belt with automatic tensioner

Electric intake manifold heaters for cold-weather starting

High-pressure ether starting aid

Engine coolant heater, 1,500 W, 120 volt

TRANSMISSION

John Deere AutoShift Plus™, direct drive, countershaft, eight speeds forward and eight speeds reverse
Autoshift transmission (gears 4-8)
Electronic shift modulation
Over-speed protection
Self-diagnostic with service-code display
Industry standard U-shaped shift pattern
Transmission neutral lock, safety start switch
Rubber isolation mounting to reduce noise and vibration
Easy-access vertical spin-on oil filter
Separate oil lubrication, filtration, and cooling system
Quick-disconnect transmission test ports

AXLE, FINAL DRIVE, AND BRAKES

Operator-controlled, hydraulically operated differential lock
Spiral bevel planetary final drives
Separate oil lubrication, filtration, and cooling system
Inboard, wet multi-disc brakes
Primary and secondary brakes, SAE J / ISO 3450
Spring-applied, hydraulically released parking brake, SAE J / ISO 3450

ELECTRICAL

Heavy-duty, low-maintenance, 1,400 CCA, 440 min reserve capacity batteries (2)
Heavy-duty, low-maintenance, 750 CCA, 180 min reserve capacity batteries (2)
100-amp alternator
Bypass start safety cover on starter
Electrical load center
Individual circuit protection, blade-type fuses
Electrical master disconnect switch
Positive terminal battery covers
High-output halogen transporting lights (4)
Cab prewired for rotating beacon, radio, and

auxiliary circuit
Electric horn, SAE J1446
Reverse warning alarm, 111 db(A), SAE J994
Rear stop lights (2)
Front and rear turn signals (2)
Deluxe halogen lighting package (16)
LED brake and turn lights
Electronic corrosion package

HYDRAULIC SYSTEM

Separate reservoir, filtration, and cooling system
207 l/min (54.7 gpm) axial-piston main pump
O-ring face seal fittings
Float position on blade cylinders
Conversion kit from two-hand to one-hand blade lift
Hydraulic pump disconnect for cold-weather starting
Fluid sampling ports
Secondary steering

HFWD

Effective in gears 1-4
15-position aggressiveness control
Automatically increases tractive effort and steering control
Axial-piston pumps (2) with separate left and right systems
Inching capability to 0 mph

BLADE FUNCTIONS

Industry preferred control pattern
Seven-position saddle
Four-function hydraulic control valve, right and left
Up to six auxiliary function control valves, three right and three left

DRAFT FRAME

Double ball and socket for extreme-reach positions left and right
Replaceable wear inserts

CIRCLE

Nylon wear inserts
Extreme-service bronze wear inserts
360-degree rotation
Circle drive with slip clutch

MOLDBOARD

4.27 m x 686 mm x 25 mm (14 ft x 27 in x 1 in) high strength, wear resistant
Extreme-service wear inserts
4.88 m x 686 mm x 25 mm (16 ft x 27 in x 1 in)

CUTTING EDGE

19 mm x 203 mm (0.75 in x 8 in) Dura-Max through-hardened steel

FRONT ATTACHMENTS

Push block
Front weight, 550 lb
Auxiliary hydraulics for front-mounted equipment

REAR ATTACHMENTS

Ripper/scarifier combination with parallelogram linkage
Bottom guard
Side panels for bottom guard

TYRES AND RIMS

Single-piece rims
Three-piece rims
14.00-24, 12 PR G2
17.5-25, 12 PR L2
14.00-R24, Radial
17.5-R25, Radial

OPERATOR'S STATION

Low-profile ROPS cab with air conditioning and heater
ROPS canopy
Full-height ROPS cab with air conditioning and heater
Adjustable front console with tilt steering wheel
Gauges: Fuel level/Engine coolant temperature /Rear steer indicator/Transmission and hydraulic oil temperature
Monitor system with warning lights: Park brake on/Service brake pressure and/or audible alarm/Hydraulic oil temperature/Transmission oil temperature/Engine oil pressure/Alternator voltage/Differential lock filter restriction / Engine air filter restriction/Wait to start (cold start) / Transmission oil filter restriction/Hydraulic oil filter restriction/Differential lock engaged/Saddle lock pin disengaged/Service code warning
HFWD charge pressure with audible alarm/HFWD charge filter restriction/HFWD temperature
Lighted HFWD on-off switch
Selectable display on monitor: Transmission gear and direction/Vehicle speed (mph)/Vehicle speed (km/h)/Engine speed (rpm)/Hourmeter/ Alternator voltage/Service codes
Indicators: Turn signal/Four-way flasher
Instrument lights
Interior lights
Rearview mirrors (SAE J985): Exterior (2)/Interior
Deluxe air-suspension seat with adjustable armrests
Retractable seat, 3 in, SAE J386
Tinted glass
Wipers for lower-front windows
Front and rear windshield washers with intermittent wipers
Openable lower-front windows
Rear window electrical defroster
Radio, AM/FM/weatherband
Radio, AM/FM/weatherband with cassette
Radio, AM/FM/weatherband with CD
Heated outside mirrors
Floor mat

What makes the 872D Motor Grader a great performer...

- **High performance engine with impressive torque reserves**
- **Heavy-duty inboard planetary final drives to protect the tandems from shock-load stress**
- **Fully modulated multiple-disk wet brakes**
- **High-strength circle and draft frame to withstand high-impact loads and provide accurate grading**
- **Electronic monitoring of vital information and systems**
- **Exclusive draft-frame design for greater productivity**
- **Superior blade flexibility**
- **Long lasting cutting edges**
- **Production enhancing features, like pitch, float and sideshift, come as standard**
- **Unmatched visibility to and through the circle with precise, short-throw, low-effort controls**
- **Fully adjustable control console and steering wheel for supreme operator comfort**

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All dimensions are shown in millimetres, unless otherwise stated between brackets. Under our policy of continuous improvement, we reserve the right to change specifications and design without prior notice. Photographs featured in this brochure may include optional equipment.

**Strong Reliable Machines
Strong Reliable Support**

