



**MILLER**  
SINCE 1914  
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Fax #308-436-7645

# 670B

## MOTOR GRADER



Model shown may include options

**SAE Net  
Horsepower**

135 hp  
(101 kW)

**Transmission**

Direct Drive  
Power Shift

**SAE  
Operating  
Weight**

28,230 lb.  
(12,805 kg)

## ENGINE

John Deere engineered and manufactured six-cylinder diesel engine. Replaceable wet-type cylinder liners ensure superior heat dissipation, longer engine life. High-strength alloy heads include replaceable valve seat inserts. John Deere engines are designed and manufactured with time-proven industry standard features that provide reliable service and long life.

**Engine:** John Deere 6068T

Rated power @ 2300 rpm	135 SAE net hp (101 kW)
	142 SAE gross hp (106 kW)
Turbocharger	standard
Number of cylinders	6
Displacement	414 cu in. (6.785 L)
Fuel consumption, typical (depending on duty cycle)	3.0 to 6.0 gal/hr (11 to 23 L/h)
Net torque at 1300 rpm (30% torque rise)	400 lb-ft (542 Nm)
Lubrication	pressure system w/full flow filter and cooler
Aspirated air cleaner with restriction indicator	dual element, dry
Electrical system	24 volt with 42-amp (1120 W) alternator
Batteries	two 12-volt with 180 minute reserve capacity

## TRANSMISSION

Direct drive, planetary power shift transmission with modulated shift on-the-go speed selections in all eight forward and four reverse gears. There are five working speeds below 9 mph (15 km/h). Standard equipment also includes an inching pedal and tow disconnect.

### TRAVEL SPEEDS

(At 2300 engine rpm with 13.00-24 tires and no tire slip)

Shift Lever Position	Forward		Reverse	
	mph	(km/h)	mph	(km/h)
1	2.2	3.5	2.9	4.7
2	3.2	5.1	4.1	6.6
3	4.9	7.9	6.3	10.1
4	6.4	10.3	8.2	13.2
5	8.4	13.5		
6	10.9	17.5		
7	14.2	22.9		
8	24.4	39.3		

## FINAL DRIVE

Inboard-mounted planetary final drives are sealed in cool, filtered oil. The operator-controlled differential lock/unlock system allows the differential to easily be locked for maximum traction or unlocked for maneuverability in tight turns. Two-inch (51 mm) pitch tandem drive chains are sized for long life.

## BRAKES

Foot-operated hydraulic wet-disk power brakes are sealed in cool, filtered oil. They're self-adjusting and maintenance free. Standard equipment also includes a hand-operated, mechanical dry-disk parking brake. Both independent braking systems are effective on all four tandem wheels.

## FRONT AXLE

Heavy-duty, welded box construction	
Front axle oscillation (total)	32 degrees
Wheel lean (each direction)	20 degrees

## STEERING

A John Deere innovation — all hydraulic power frame articulation provides maximum maneuverability and productivity. Crab steering reduces side drift, positions the tandems on firm ground and increases sideslope stability.

Frame articulation (both right and left)	25 degrees
Minimum turning radius	22 ft. (6.7 m)

## HYDRAULICS

The closed-center hydraulic system uses a pressure-controlled variable-displacement single hydraulic pump. Integral hydraulic control valve lockouts eliminate cylinder drift. O-ring face seal and fittings eliminate hydraulic leaks.

Hydraulic pump	4.0 cu. in. (65 cm <sup>3</sup> )
Rated flow at 2300 engine rpm	37.6 gpm (142 L/min)

## TIRES AND RIMS

Tire Size	Wheel Tread		Overall Width		Ground Clearance (Front Axle)
	Front	Rear	Front	Rear	
13.00-24 9 in. rim (229 mm)	76.60 in. (1.94 m)	79.60 in. (2.02 m)	7 ft. 10 in. (2.39 m)	7 ft. 10 in. (2.39 m)	22 in. (559 mm)
14.00-24 10 in. rim (254 mm)	76.60 in. (1.94 m)	79.60 in. (2.02 m)	8 ft. (2.44 m)	8 ft. (2.44 m)	22.5 in. (572 mm)
17.5-25 14 in. rim (356 mm)	79.40 in. (2.02 m)	82.40 in. (2.09 m)	8 ft. 6 in. (2.59 m)	8 ft. 6 in. (2.59 m)	23.2 in. (589 mm)

## CAPACITIES

	U.S.	
Fuel tank	70 gal.	(265 L)
Cooling system	7 gal.	(26.5 L)
Engine lubrication, including filter	20 qt.	(18.9 L)
Transmission and hydraulic system (refill)	14 gal.	(53 L)
Tandem housings (each)	5 gal.	(18.9 L)
Circle gearbox	3 qt.	(2.8 L)

## OPERATING WEIGHTS

SAE	On Front Wheels	On Rear Wheels	Total
With standard equipment	8,620 lb. (3909 kg)	20,410 lb. (9256 kg)	29,030 lb. (13,166 kg)
With standard equipment and scarifier	10,610 lb. (4812 kg)	20,150 lb. (9138 kg)	30,760 lb. (13,950 kg)
With standard equipment, scarifier and ripper	9,870 lb. (4476 kg)	23,440 lb. (10,630 kg)	33,310 lb. (15,107 kg)
Typically equipped operating weights range up to 35,020 lb. (15,882 kg)			



## **BLADE**

All blade sliding components are precision machined for close adjustment with minimum looseness. Replaceable wear strips eliminate component wear and the need for greasing. All structural members are designed to handle both low speed dirt work and high speed snow removal.



## **OPERATOR'S STATION**

Excellent visibility and low noise, along with numerous climate control options, result in a comfortable and productive work environment. Unmatched visibility to and through the working tool allow the operator to precisely locate and control blade position.



## **CONTROL CONSOLE**

Industry standard control locations with independently adjustable console and steering wheel provide the most comfortable operating position. The electronic monitoring system supplies routine operational information and warns of impending critical function problems before they become catastrophic.



## **DURABILITY**

All power train, hydraulic, and structural components are specifically designed to provide long life in all motor grader applications. John Deere pioneered the articulated motor grader and continues to provide highly reliable and easily serviced components.

## SCARIFIER

V-type manual three-pitch position with hydraulic float	
Width of cut	4 ft. (1.22 m)
Number of teeth	5 standard, 9 optional
Lift above ground	21.8 in. (554 mm)
Maximum penetration	13.3 in. (338 mm)
Shank size	1 x 3 in. (25 x 76 mm)

## RIPPER

Parallelogram linkage with electric valve control	
Width of cut	8 ft. (2.44 m)
Number of shanks	3 standard, 5 optional
Lift above ground	14.5 in. (368 mm)
Maximum penetration	14 in. (356 mm)
Shank size	2 x 5 in. (51 x 127 mm)

### ADDITIONAL STANDARD EQUIPMENT

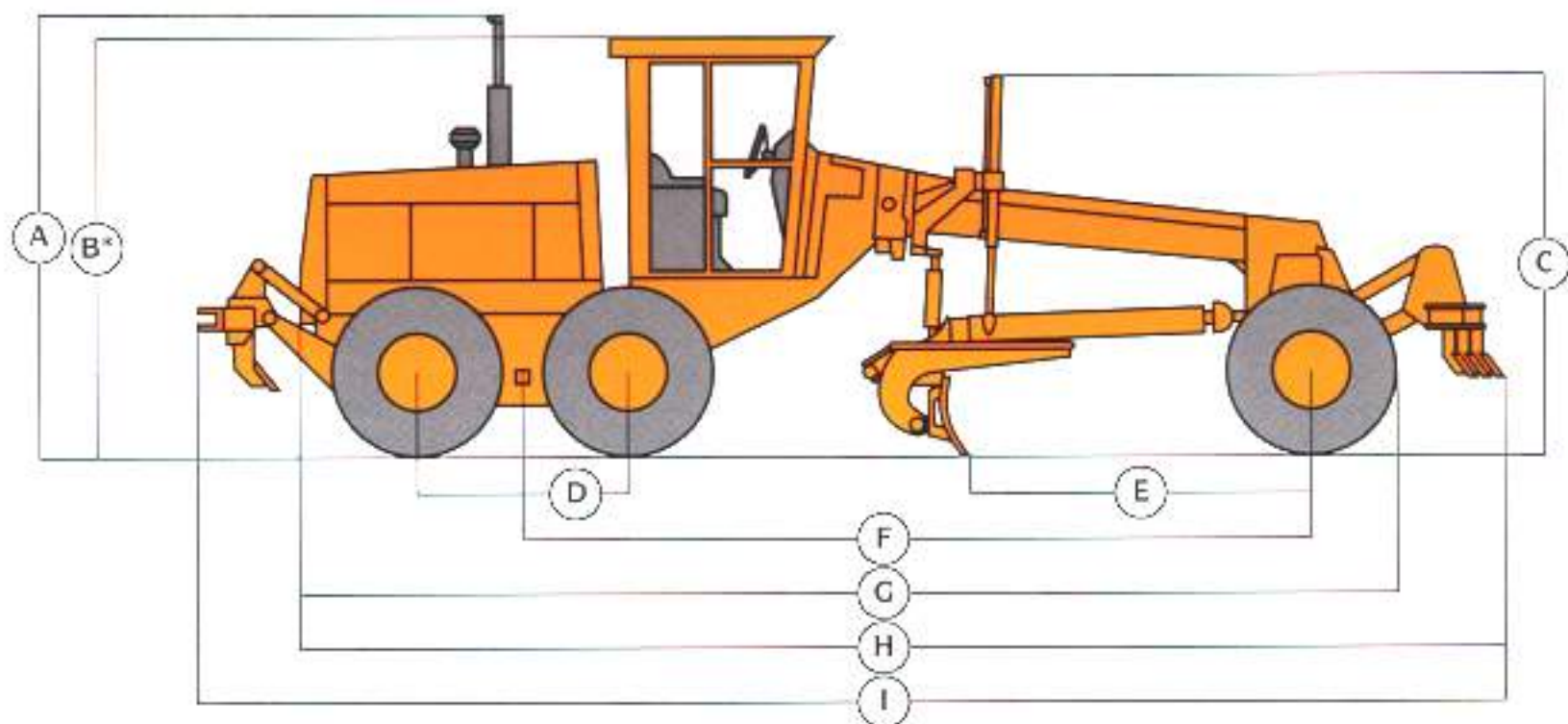
Articulation indicator	Low brake pressure	Low transmission clutch pressure	Front windshield wiper
Cab, low profile with ROPS, cushioned vinyl seat and seat belt	Very high transmission temperature	Restricted transmission filter	Fuel gauge
Dual-level monitor system	Engaged park brake (in gear)	Restricted hydraulic filter	Horn
First level warning:	Second level warning:	Disengaged lift arm lock	Hourmeter
(Red STOP light, audible alarm and white function indicator light)	(Yellow CAUTION light and white function indicator light)	Function indicator only:	Lights, driving
Low engine oil pressure	Restricted engine air filter	(Green function indicator light)	Lights, stop and tail
Very high engine coolant temperature	Low electrical voltage	Engaged differential lock	Mirror, rearview, inside
	High transmission temperature	Turn signals	Mirrors, outside, rearview, convex, both sides
		Hazard warning signals	Reverse warning alarm
		Engine air precleaner	Tow disconnect
			Turn signals/hazard warning lights

### OPTIONAL OR SPECIAL EQUIPMENT WITH APPROXIMATE WEIGHTS

(Add these weights to SAE standard equipment operating weight to obtain total operating weight.)

	lb.	kg		lb.	kg
Air conditioner with heavy-duty alternator	177	80	Moldboard w/through hardened Dura-Max cutting edges:		
Alternator, 50-amp (1400 W)	17	8	12-ft. (3.66 m) w/ .88 x 8 in. (19 x 203 mm) cutting edge	106	48
Auxiliary function valve (rear mounted)	50	23	14-ft. (4.27 m) w/ .62 x 6 in. (16 x 152 mm) cutting edge	146	66
Batteries, heavy-duty with 320 min. (1000 CCA) reserve capacity	101	46	14-ft. (4.27 m) w/ .88 x 8 in. (19 x 203 mm) cutting edge	155	70
Beacon wiring and switch	2	1	Moldboard extensions, 2-ft. (610 mm), right or left (less cutting edge)	220	100
Blade, front dozer	1490	676	Overlay end bits (1 pair), 6 in. (152 mm)	62	28
Bottom guard, general purpose	160	73	Overlay end bits (1 pair), 8 in. (203 mm)	77	35
Bottom guard, heavy-duty with rear hitch	510	231	Rear hitch	61	28
Cab, full height with ROPS	82	37	Rims for 17.50-25 tires	674	306
Canopy, low profile with ROPS	-226	103	Ripper, rear mounted with hitch and 3 shanks	2470	1120
Cold-weather starting aid	3	1	Scarifier with five teeth, 1 x 3 in. (25 x 76 mm)	1730	785
Control conversion (moves LH blade control to RH side)	2	1	Seat belt, 3-in. (76 mm)	3	1
Dura-Max through-hardened cutting edge, ¾ x 8 in. (19 x 203 mm)	8.5 lb/ft (13 kg/m)		Seat, deluxe suspension, cloth covered	90	41
Engine side shields	60	27	Seat, deluxe suspension, vinyl covered	90	41
Fan, defroster	4	2	Tires:		
Fans, dual defroster	8	4	14.00-24, 12 PR, G2	270	122
Heater, coolant	2	1	17.50-25, 12 PR, L2	528	240
Heater, cab, 20,000 Btu/hr (5.9 kW)	16	7	Toolbox	11	5
Heater, cab, 40,000 Btu/hr (11.7 kW)	31	14	Washer, front and rear windshield	15	7
Heater, roof-mounted, 25,000 Btu/hr (7.3 kW) (add to air conditioner)	17	8	Weight, front	600	272
Hydraulic pump, pressure controlled, variable displacement, 6.00 in <sup>3</sup> (98 cm <sup>3</sup> )	50	23	Wiper, rear window	5	2
52.4 gpm (198 L/min)			Wipers, lower front windows	7	3
Lights, 2 blade	4	2			
Lights, work, 2 front/2 rear floods	12	5			
Mat, floor	9	4			

## DIMENSIONS



### Key

A	Height to top of exhaust	10 ft. 7.5 in. (3.24 m)
B	Height to top of cab	10 ft. 0.5 in. (3.06 m)
C	Height to top of blade lift cylinders	9 ft. 7 in. (2.92 m)
D	Tandem axle spacing	5 ft. 0.7 in. (1.54 m)
E	Bladebase	8 ft. 9 in. (2.67 m)
F	Wheelbase	19 ft. 7 in. (5.97 m)
G	Overall length	27 ft. 3 in. (8.31 m)
H	Overall length with scarifier	29 ft. 7 in. (9.02 m)
I	Overall length with scarifier and ripper	31 ft. 11 in. (9.73 m)

\*Add 8.3 in. (210 mm) for full height cab  
Add 1.0 in. (25.5 mm) for cab with air conditioning

## BLADE FUNCTION

All hydraulic, industry preferred hand lever placement of blade function controls (standard equipment). Blade lift controls include a float position. Conversion from two-hand to one-hand control is easily accomplished. Seven blade lift arm positions provide excellent blade positioning capabilities. Blade components are fully adjustable.

### BLADE RANGE

Lift above ground	17.5 in. (444 mm)
Blade side shift, right or left	26.9 in. (683 mm)
Shoulder reach outside wheels (frame straight):	
Right	83 in. (2.11 m)
Left	85 in. (2.16 m)
Pitch at ground line	49 deg. forward 5 deg. back

## MAINFRAME

Welded box construction	
Width, minimum	12.07 in. (306.5 mm)
Height, minimum	10.63 in. (270 mm)
Thickness, sides	0.63 in. (16 mm)
top and bottom	1.00 in. (25 mm)
Weight per ft., minimum	118 lb-ft (175.5 kg-m)
Minimum vertical section modulus	117 in <sup>3</sup> (1917 cm <sup>3</sup> )
Average vertical section modulus at saddle	149 in <sup>3</sup> (2448 cm <sup>3</sup> )

## DRAWBAR

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

## CIRCLE

Welded construction, heat-treated for strength and machined for flatness with replaceable wear inserts.

Circle diameter	60 in. (1.52 m)
Rotation	360 degrees
Drive	hydraulic motor and worm gear with positive position lock
Sideshift, right	28.5 in. (724 mm)
left	31.0 in. (787 mm)

## MOLDBOARD

High strength, wear resistant high carbon steel with replaceable side shift wear inserts.

Length	12 ft. (3.65 m)
Height	24 in. (610 mm)
Thickness	0.88 in. (22 mm)

## CUTTING EDGE

Dura-Max<sup>®</sup> through hardened steel edge  
Thickness and width 0.62 x 6.0 in. (16 x 150 mm)

## ADDITIONAL AVAILABLE EQUIPMENT\*

Automatic blade controls  
Compactors  
Dozer blades

Fenders  
Grade and slope indicators  
Push blocks

Slopers  
Snow plows and wings  
Tire chains

Windrow eliminators  
\*See your John Deere dealer for further information

## THE JDAvantEDGE

JDAvantEdge is a wealth of support programs, parts systems and dealer resources, all designed to give you the edge. This package of special benefits is a major reason why John Deere offers the "best value" for your equipment dollar.

**Best parts support** – Twelve regional parts depots in North America and others around the world put parts support near your job no matter where in the world it is.

A computerized FLASH™ parts locating system linking these depots to dealerships can find out-of-stock parts in a hurry and get them into your hands fast. Usually within 24 hours.

**Best service backup** – Dealer service technicians are regularly schooled, at our modern facility in Davenport, Iowa, or by professionals in the field, to diagnose quickly and repair efficiently.

If they are stumped, a phone call to DTAC (Dealer Technical Assistance Center) puts them in touch with a staff of pros at the factory who help them find a solution quickly.

**Best dealers** – Your John Deere dealer is an important contributor to the JDAvantEdge. He or she is committed to being the best equipment supplier you can work with.

This is a dollars-and-cents commitment in parts inventory, in service facilities, in field service trucks. It's a sweat and blood commitment in dedicated, skilled and highly trained and motivated personnel in each and every department at the dealership.

But what sets John Deere dealers apart from all the rest is something more, a factor somewhat difficult to measure . . . a caring attitude, and a sincere desire to be the best at meeting the needs of each individual customer.

**John Deere Finance Plans** – Whether you rent, lease or buy John Deere equipment, your dealer can explain the John Deere options available. One-stop options that let you free up operating capital, keep other lines of credit open. More solid benefits of the JDAvantEdge.

**Best protection** – In addition to the new equipment warranty that meets or exceeds the competition, SECURE™ extended coverage, an optional service product for John Deere equipment, is available for repair coverage after the warranty concludes. Full machine or power train coverage is available for a variety of time periods to meet your needs. Consult your dealer for availability and details.



Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 70 020, using No. 2-D fuel at 35 API gravity. No derating is required up to 10,000 feet (3050 m) altitude. Gross power is without cooling fan.

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 a unit with 13.00-24, 8 PR tubeless tires, 12-ft (3.65 m) moldboard with .62 x 6-in. (16 x 150 mm) cutting edge, and standard equipment. Weights include lubricants, coolants, full fuel tank and 175 lb. (79 kg) operator.

