



# 770B H

MOTOR GRADER (DUAL POWER)



Model shown may include options

<b>SAE Net Horsepower</b> 155-185 hp (116-138 kW)	<b>Transmission</b> Direct Drive Power Shift	<b>SAE Operating Weight</b> 31,300 lb. (14,195 kg)
---	--	--

## ENGINE

John Deere engineered and manufactured 6-cylinder diesel engine features replaceable wet-type cylinder liners that ensure superior heat dissipation and long engine life. A 20 percent increase in low-speed torque means more lugging power and quicker engine response under changing loads. Improved fuel efficiency combined with increased torque lets you do more work with less fuel. The dual horsepower feature provides an optimum engine to transmission match for superior grader performance and traction.

**Engine:** John Deere 6076A  
 Rated power at 2200 rpm  
 in gears 1-3 ..... 155 SAE net hp (116 kW)  
 ..... 162 SAE gross hp (121 kW)  
 Rated power at 2200 rpm  
 in gears 4-8 ..... 185 SAE net hp (138 kW)  
 ..... 192 SAE gross hp (143 kW)  
 Turbocharged ..... aftercooled  
 Number of cylinders ..... 6  
 Displacement ..... 466 cu. in. (7.638 L)  
 Fuel consumption, typical  
 (depending on duty cycle) ..... 4.0 to 6.8 gal./hr. (15 to 26 L/h)  
 Net torque at 1100 rpm  
 in gears 1-3 (42% torque rise) ..... 572 lb.-ft. (708 Nm)  
 in gears 4-8 (42% torque rise) ..... 615 lb.-ft. (834 Nm)  
 Lubrication ..... pressure system w/full flow filter and cooler  
 Aspirated air cleaner with restriction  
 indicator ..... dual element, dry  
 Electrical system ..... 24 volt with 50-amp (1400 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 2200 engine rpm with 14.00-24 tires and no tire slip)

Shift Lever Position	Forward		Reverse	
	mph	(km/h)	mph	(km/h)
1	2.3	3.7	3.0	4.8
2	3.3	5.3	4.3	6.9
3	5.2	8.4	6.7	10.8
4	6.7	10.8	8.6	13.8
5	8.9	14.3		
6	11.5	18.5		
7	14.7	23.7		
8	25.2	40.6		

## 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 and 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 ..... 6.0 cu. in. (98 cm<sup>3</sup>)  
 Rated flow at 2200 engine rpm ..... 52.4 gpm (198 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

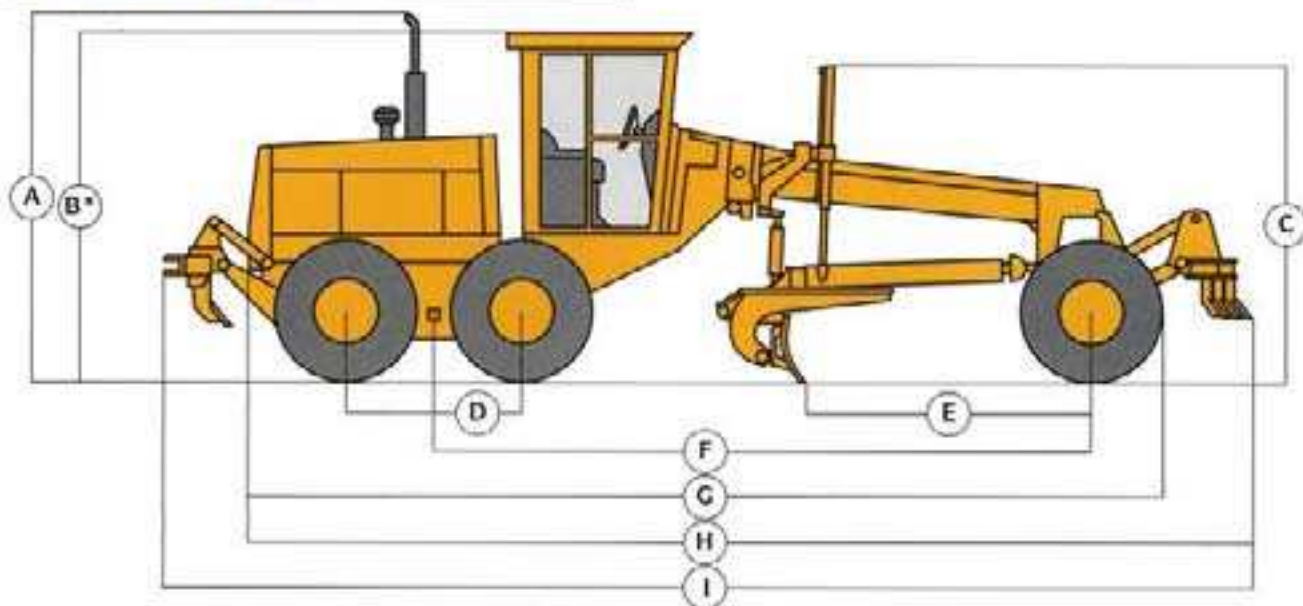
**U.S.**  
 Fuel tank ..... 90 gal. (340 L)  
 Cooling system ..... 10 gal. (38 L)  
 Engine lubrication, including filter ..... 26 qt. (24.6 L)  
 Transmission and hydraulic system (refill) ..... 23 gal. (87 L)  
 Tandem housings (each) ..... 5 gal. (18.9 L)  
 Circle gearbox ..... 4 qt. (3.8 L)

## OPERATING WEIGHTS

SAE	On Front Wheels	On Rear Wheels	Total
With standard equipment	8,700 lb. (3946 kg)	22,600 lb. (10,249 kg)	31,300 lb. (14,195 kg)
With standard equipment and scarifier	10,640 lb. (4825 kg)	22,300 lb. (10,155 kg)	33,050 lb. (14,980 kg)
With standard equipment, scarifier and ripper	9,870 lb. (4476 kg)	25,630 lb. (11,624 kg)	35,500 lb. (16,100 kg)

Typically equipped operating weights range up to 38,520 lb. (17,470 kg).

## DIMENSIONS



### Key:

A	Height to top of exhaust	10 ft. 10 in. (3.30 m)
B	Height to top of cab	10 ft. 1.5 in. (3.09 m)
C	Height to top of blade lift cylinders	9 ft. 8 in. (2.95 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. 11 in. (8.51 m)
H	Overall length with scarifier	30 ft. 3 in. (9.22 m)
I	Overall length with scarifier and ripper	32 ft. 7 in. (9.93 m)

\*Add 8.3 in. (210 mm) for full-height cab  
 Add 1.0 in. (25.5 mm) for cab with air conditioning  
 Add 0 in. (0 mm) for low profile canopy with ROPS

## 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 RANGE

Lift above ground	18.5 in. (470 mm)
Blade side shift, right or left	26.9 in. (683 mm)
Shoulder reach outside wheels (frame straight):	
Right	83.0 in. (2.11 m)
Left	85.0 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. (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.

## CIRCLE

Welded construction, heat-treated for strength and machined for flatness.

Circle diameter	60 in. (1.5 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.

Length	12 ft. (3.66 m)
Height	24 in. (610 mm)
Thickness	0.88 in. (22 mm)

## CUTTING EDGE

Dura-Max<sup>®</sup> through-hardened steel.

Thickness and width	0.62 x 6.0 in. (16 x 152 mm)
---------------------	------------------------------

## 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 manual valve control.

Width of cut	8 ft. (2.44 m)
Number of shanks	3 standard, 5 optional
Lift above ground	15.5 in. (394 mm)
Maximum penetration	14 in. (356 mm)
Shank size	2 x 5 in. (51 x 127 mm)

## ADDITIONAL STANDARD EQUIPMENT

### Engine/Power Train:

Air pre-cleaner  
 Antifreeze  
 Battery disconnect  
 Fan guard  
 Fuel filter and water separator  
 Radiator trash screen  
 Transmission low disconnect  
 14.00-24, 10 PR, G2 tires  
**Electrical System:**  
 50 amp (1400 watt) alternator  
 Batteries with 180 min. (625 CCA) reserve capacity  
 Battery voltage monitor  
 Horn  
 Lights  
 Driving (2)  
 Flashing and turn signals (4)  
 Stop and tail (2)  
 Reverse warning alarm

### Hydraulics:

Controls  
 Blade lift with float  
 Blade pitch  
 Blade sideshift  
 Circle rotate  
 Circle sideshift  
 Frame articulate  
 Wheel lean  
 Hydraulic differential lock  
 Hydraulic oil cooler  
 Hydraulic pump, 6.0 cu. in. (99 cm<sup>3</sup>), 52.4 gpm (198 Lpm)  
 Power brakes  
 Power steering  
**Operator's Station:**  
 Adjustable front console  
 Cushioned vinyl seat  
 Front windshield wiper  
 Instrument lights  
 Interior light  
 Low profile cab with ROPS

## RIPPER/SCARIFIER

Parallelogram linkage with manual valve control and hydraulic float.

<b>Ripper:</b>	
Width of cut	8 ft. (2.44 m)
Number of shanks	5 standard, 5 optional
Lift above ground	15.5 in. (394 mm)
Maximum penetration	14 in. (356 mm)
Shank size	2 x 5 in. (51 x 127 mm)
<b>Scarifier:</b>	
Width of cut	6 ft., 10 in. (2.08 m)
Number of teeth	9
Lift above ground	17.5 in. (444 mm)
Maximum penetration	12.0 in. (305 mm)
Shank size	1.25 x 4.0 in. (32 x 102 mm)

### Mirrors:

Interior rearview  
 Outside rearview (2)  
 Seat belt  
 Switch-operated differential lock control  
 Tilt steering  
 Tinted glass

### Instruments and Indicators:

Dual level monitor system  
 Alternator voltage warning light  
 Brake pressure warning light with audible alarm  
 Engine air cleaner restriction warning light  
 Engine coolant temperature warning light with audible alarm  
 Engine oil pressure warning light with audible alarm  
 Hydraulic oil filter restriction warning light

### Part brake engaged (in gear)

warning light with audible alarm  
 Saddle locking pin disengaged warning light  
 Transmission oil filter restriction warning light  
 Transmission oil pressure warning light  
 Transmission oil temperature warning light with audible alarm  
**Indicator lights:**  
 Differential lock engaged  
 Turn signal and hazard warning  
**Gauges:**  
 Articulation indicator  
 Fuel  
 Hourmeter  
**Moldboard:**  
 12 ft. x 24 in. (3.66 m x 610 mm) moldboard with .62 x 6 in. (16 x 152 mm) through hardened Dura-Max cutting edge

## 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
<b>Engine/Power Train:</b>			15 ft. x 24 in. (3.66 m x 610 mm) moldboard with .62 x 6 in. (16 x 152 mm) through hardened Dura-Max cutting edge	60	27
Cold weather ether starting aid	3	1	13 ft. x 24 in. (3.66 m x 610 mm) moldboard with .75 x 8 in. (19 x 203 mm) through hardened Dura-Max cutting edge	196	89
Coolant heater	2	1	14 ft. x 24 in. (4.27 m x 610 mm) moldboard with .62 x 6 in. (16 x 152 mm) through hardened Dura-Max cutting edge	119	54
<b>Operator's Station:</b>			14 ft. x 24 in. (4.27 m x 610 mm) moldboard with .75 x 8 in. (19 x 203 mm) through hardened Dura-Max cutting edge	265	120
Air conditioner with R134a refrigerant, pressurizer, and heavy-duty alternator	177	80	Extensions, 3 ft. (610 mm) right or left (less cutting edge)	220	100
Cab, full height with ROPS	82	37	Overlay end bits (1 pair)		
Canopy, low profile with ROPS	-226	-103	6 in. (152 mm)	62	28
Control conversion (moves LH blade control to RH side)	3	1	8 in. (203 mm)	77	35
Defroster fan	4	2	<b>Attachments:</b>		
Defroster fans (dual)	8	4	Bottom guard, general purpose	170	77
Floormat	9	4	Bottom guard, heavy duty with rear hitch	610	277
Heater - 20,000 Btu/hr (5.9 kW)	16	7	Doser blade, front mounted - 106 x 31.6 in. (2.69 m x 805 mm)	1490	676
Heater - 40,000 Btu/hr (11.7 kW)	31	14	4.5 in. (109 mm) dig below ground		
Heater - 25,000 Btu/hr (7.3 kW), roof mounted for use with air conditioner	17	8	29.9 in. (759 mm) lift above ground		
Seat belt, 5 in. (76 mm)	3	1	Engine side shields	60	27
Seat, deluxe suspension vinyl with armrests	90	41	Front weight	550	250
Seat, deluxe suspension cloth with armrests	90	41	Pushblock, front	1750	793
Windows, openable lower front	7	3	Rear hitch	61	28
Windshield washers, front and rear	15	7	Ripper, rear mounted with hitch and 5 shanks	2470	1120
Wipers/washers, lower front windows	7	3	Ripper/scarifier, rear mounted with hitch, 3 ripper shanks and 9 scarifier teeth	5284	2489
Wiper, rear window	5	2	Scarifier, front mounted with 5 teeth	1730	785
<b>Electrical System:</b>			Toolbox	11	5
Batteries, heavy-duty with 320 min. (1100 CCA) reserve capacity	101	46	<b>Tires:</b>		
Beacon wiring and switch	2	1	13.00-24, 12 PR, G2 tires on 9 in. rims	24	11
Blade lights (7 mounted under cab)	4	2	14.00-24, 12 PR, G2 tires on 9 in. rims	108	49
Work lights (2 front, 2 rear)	12	5	14.00-24, 12 PR, G2 tires on 10 in. 5-piece rims	475	215
24 volt to 12 volt 5-amp converter	3	1	14.00-24 radial tires on 10 in. 5-piece rims	697	316
24 volt to 12 volt 20-amp battery balancer	3	1	17.5-25, 12 PR, L2 tires on 14 in. 5-piece rims	947	429
<b>Hydraulics:</b>			Other tire sizes available		
Auxiliary function valve for front-mounted equipment	5	1			
Auxiliary function valve for rear-mounted equipment	50	23			
Hydraulics for front-mounted equipment	19	9			
<b>Moldboards:</b>					
12 ft. x 24 in. (3.66 m x 610 mm) moldboard with .75 x 8 in. (19 x 203 mm) through hardened Dura-Max cutting edge	126	57			



### **BLADE**

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



### **VISIBILITY**

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 allows 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. New electronic differential lock is located on control console.



### **DUAL HORSEPOWER**

The dual horsepower grader is designed to provide maximum performance in all gears with reduced wheel slip. When in gears 1-3 this unit operates at 155 horsepower (116 kW), in gears 4-8 it operates at 185 horsepower (138 kW). This increased horsepower provides high productivity when operating under heavy blade loads at higher ground speeds.

## ADDITIONAL AVAILABLE EQUIPMENT\*

Automatic blade controls  
Compactors  
Dozer blades

Fenders  
Grade and slope indicators  
Push blocks

Slopers  
Snowplows 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're 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.

**Quality manufacturing** - This machine was manufactured at the John Deere Davenport Works, Davenport, Iowa, which has been registered to the International Organization for Standardization (ISO) standard 9001. The Davenport Works has been audited and recognized for its excellence in quality systems by the Quality Management Institute (QMI) and the Japanese Machinery & Metal Inspection Institute (JMI).



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 14.00-24, 10 PW tubeless tires, 12 ft. (3.66 m) moldboard with .62 x 6-in. (16 x 152 mm) cutting edge, and standard equipment. Weights include lubricants, coolant, full fuel tank and 175-lb. (79 kg) operator.

