



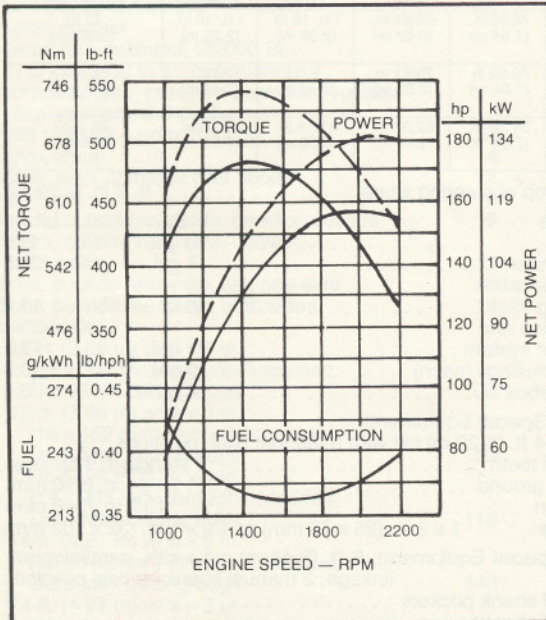
# 770A-H MOTOR GRADER (Dual Power)

**MASTER**



Model shown may include options

## ENGINE PERFORMANCE



## FEATURES

180 SAE net hp (134 kW) in gears 4-8

155 SAE net hp (116 kW) in gears 1-3

31,500 to 33,500 (14 288 to 15 195 kg) operating weight with typical options and special equipment

12-ft. (3.65 m) moldboard with 0.62 x 6 in. (16 x 152 mm) through-hardened Dura-Max® cutting edge guaranteed against breakage, standard; longer moldboards and extensions available

Power Shift transmission; 8 speeds forward, 4 reverse

Articulated frame steering

Differential lock-unlock

22-ft. (6.70 m) turning radius

All-hydraulic control of blade and machine functions

Closed-center hydraulic system with drift-free poppet valves and pushbutton controls

Hydraulically controlled, 7-position lift arms allow blade positioning for 90-degree bank cuts, left or right, in approximately one minute, without leaving the seat

Oscillating front axle and tandem rear wheels

Hydraulic front-wheel lean

Rollover protective structure (ROPS) w/cab

## ADD VERSATILITY WITH:

Snow plow and wings

Scarifier

Rear-mounted ripper

Bulldozer

Automatic blade control

**MASTER**



# 770A-H MOTOR GRADER (Dual Power) SPECIFICATIONS

(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, 12-PR, tubeless tires with 8-in. (203 mm) rims, 12-ft. (3.65 m) moldboard with 6-in. (152 mm) cutting edge, and standard equipment. Weights include lubricants, coolants, full fuel tank and 175-lb. (79 kg) operator.)

Rated Power @2200 rpm:	SAE	DIN 70 020
Net	180 hp (134 kW)	134 kW
In gears 1-3	155 hp (116 kW)	116 kW
Gross	190 hp (142 kW)	
In gears 1-3	165 hp (123 kW)	

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 gravity. No derating is required up to 10,000 (3050 m) altitude. Gross power is without cooling fan.

**Engine:** John Deere 6-466A

Type	4-stroke cycle, turbocharged and intercooled diesel
Bore and stroke	4.56 x 4.75 in. (116 x 121 mm)
No. of cylinders	6
Displacement	466 cu. in. (7.638 L)
Compression ratio	14.9 to 1
Maximum net torque @1400 rpm	537 lb-ft (728 Nm)
	(74.2 kg-m) — 25% torque rise
	480 lb-ft (651 Nm)
	(74.2 kg-m) — 30% torque rise

Cooling fan	Suction type
Lubrication	Pressure system w/full flow filter
Aspirated air cleaner w/restriction indicator	Dry
Electrical system	24 volt w/42-amp alternator
Battery (two 12-volt)	Reserve capacity: 360 minutes

**Transmission:** Direct drive, full power shift with planetary gear reductions. Foot inching pedal and disconnect for towing.

**Travel speeds** (2200 engine rpm, no tire slip, 14.00-24 tires):

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	4.2	6.8
3	5.2	8.4	6.6	10.6
4	6.7	10.8	8.6	13.8
5	8.8	14.2		
6	11.5	18.5		
7	14.6	23.5		
8	25.1	40.4		

**Differential Lock:** Foot-operated, hydraulically actuated

**Rear Drive:** Inboard planetary final drives with heat-treated, splined steel torque shafts. Oscillating welded construction tandems; nodular cast sprockets driving 2 in. (51 mm) pitch roller chain in oil bath.

**Front Axle:** Fabricated steel box frame with steel spindles  
 Total oscillation 30 deg.  
 Wheel lean (either direction) 20 deg.

**Steering:**  
 Front Full hydraulic power system. Steering capabilities without engine power  
 Rear Hydraulically articulated frame steering (25 deg. left or right)  
 Minimum turning radius 22 ft. (6.7 m)

**Brakes:**  
 Service Foot-operated, hydraulically actuated, wet-disk, effective on 4 tandem wheels  
 Parking Foot-operated, mechanical, dry-disk, effective on 4 tandem wheels

**Hydraulic System:**  
 Closed-center w/pressure controlled 4.0 cu. in. (65 cm<sup>3</sup>) variable-displacement pump 36 gpm (2.27 L/s) @2200 engine rpm

**Moldboard:** Wear-resistant high-carbon steel  
 Length 12 ft. (3.65 m)  
 Height 24 in. (610 mm)  
 Thickness 0.88 in. (22 mm)

**Cutting Edge:** Dura-Max® through-hardened curved steel  
 Thickness and width 0.62 x 6 in. (16 x 152 mm)

**Blade Range:**  
 Lift above ground 17 in. (432 mm)  
 Blade side shift:  
 Right or left 26.9 in. (683 mm)  
 Shoulder reach outside wheels (frame straight):  
 Right 88.4 in. (2.25 m)  
 Left 89.6 in. (2.28 m)  
 Pitch at ground line 44 deg. forward  
 10 deg. back

**Blade Lifting Mechanism:**  
 Control Dual-lever, hydraulic

**Lift Arms:** Cast nodular iron  
 Positions 7  
 Control Hydraulic, foot operated

**Circle:** Fabricated steel angle construction  
 Circle diameter 60 in. (1.5 m)  
 Rotation 360 deg.  
 Drive Hydraulic motor and worm gear w/positive position lock  
 Sideshift, right 32.0 in. (813 mm)  
 left 33.5 in. (851 mm)

**Drawbar:** Welded box section, 3.5 x 7 x 0.5 in. (89 x 178 x 13 mm) wall w/ball and socket draft connection

**Frame:**  
 Rear mainframe Welded flanged box section from articulation joint to mainframe arch  
 Width, minimum 12.03 in. (306 mm)  
 Height, minimum 11.95 in. (304 mm)  
 Thickness, sides 0.47 in. (12 mm)  
 top and bottom (min.) 0.87 in. (22 mm)  
 Weight per ft., minimum 120 lb. (179 kg/m)  
 Minimum vertical section modulus 143 in<sup>3</sup> (2343 cm<sup>3</sup>)

Front mainframe Welded box section from mainframe arch to front hood  
 Width 10 in. (254 mm)  
 Height, minimum 13 in. (330 mm)  
 Thickness, minimum 0.63 in. (16 mm)  
 Weight per ft., minimum 110 lb. (164 kg/m)  
 Minimum vertical section modulus 118 in<sup>3</sup> (1935 cm<sup>3</sup>)

**Tires:**  
 13.00-24, 12 PR, G2, standard  
 14.00-24, 12 PR, G2  
 17.5-25, 12 PR, L2

## Dimensions:

Tire Size	Wheel Tread		Width		Ground Clearance (Front Axle)
	Front	Rear	Front	Rear	
13.00-24 8" rim (203 mm)	76.60 in. (1.94 m)	79.61 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" rim (254 mm)	76.60 in. (1.94 m)	79.61 in. (2.02 m)	8 ft. (2.44 m)	8 ft. (2.44 m)	22.5 in. (572 mm)
17.5-25 14" rim (356 mm)	79.36 in. (2.01 m)	82.37 in. (2.09 m)	8 ft. 6 in. (2.59 m)	8 ft. 6 in. (2.59 m)	23.2 in. (589 mm)

Height to top of steering wheel 7 ft. 6 in. (2.29 m)

Capacities	U.S.	Liters
Fuel tank	70 gal.	265
Cooling system	7 gal.	26.5
Engine lubrication including filter	20 qt.	18.9
Transmission and hydraulic system	31 gal.	117.3
Tandem housings (each)	5 gal.	18.9
Worm gearbox	4 qt.	3.8

**Scarifier (Special Equipment):**  
 V-type for 4 ft. (1.22 m) cut with 3 manual pitch positions.  
 Number of teeth 5 standard, 9 optional  
 Lift above ground 24 in. (610 mm)  
 Penetration 13.7 in. (348 mm)  
 Shank size 1 x 3 in. (25 x 76 mm) or 1 1/4 x 4 in. (32 x 102 mm)

**Ripper (Special Equipment):** 8 ft. (2.44 m) cut width, parallelogram linkage, 2 manual shank vertical positions  
 Number of shank pockets 5  
 Number of shanks 3  
 Lift above ground 14.5 in. (368 mm)  
 Penetration 14 in. (356 mm)  
 Shank size 2 x 5 in. (51 x 127 mm)  
 Lift above ground (shank in upper position) 23.5 in. (597 mm)



# 770A-H MOTOR GRADER (Dual Power) SPECIFICATIONS

## Additional Standard Equipment:

### Gauges:

- Air filter indicator
- Engine oil pressure
- Fuel level
- Hydraulic function return filter indicator
- Transmission clutch pressure
- Transmission filter indicator
- Transmission lube pressure
- Transmission temperature
- Water temperature
- Horn
- Hourmeter
- Lights, stop and tail
- Lights, driving
- Precleaner
- Reverse warning alarm
- ROPS cab w/seat belt, front wiper and dome light
- Seat, cushioned vinyl
- Turn signals

SAE Operating Weight	On Front Wheels	On Rear Wheels	Total
Standard equipment . . . . .	8548 lb. (3877 kg)	21,712 lb. (9848 kg)	30,260 lb. (13 726 kg)
Standard equipment and scarifier . . . . .	9859 lb. (4472 kg)	21,516 lb. (9759 kg)	31,375 lb. (14 231 kg)
Standard equipment, scarifier and ripper . . . . .	9091 lb. (4124 kg)	24,758 lb. (11 230 kg)	33,849 lb. (15 354 kg)

## Optional or Special Equipment with Weights:

(Add these weights to SAE Standard operating weights to obtain total operating weights.)

	lb.	kg		lb.	kg
Accelerator-decelerator	7	3	Overlay end bits (1 pair), 6 in. (152 mm)	62	28
Air conditioner w/heavy-duty alternator	187	85	Overlay end bits (1 pair), 8 in. (203 mm)	77	35
Automatic blade control	350	159	Rear hitch	61	28
Articulation indicator	6	3	Rims:		
Batteries, heavy-duty w/620-minute reserve capacity	101	46	10 in. (254 mm) for 14.00-24	472	214
Blade, front bulldozer w/float control	1618	734	14 in. (356 mm) for 17.50-25 tires	674	306
Bottom guard, heavy-duty w/rear hitch	459	208	Ripper, rear mounted with hitch	2474	1123
Bottom guard, regular	160	73	ROPS canopy w/seat belt and instrument panel cover	-447	-203
Cold-weather starting aid	3	1	Scarifier, regular w/five teeth 1 x 3 in. (25 x 76 mm)	1115	506
Dura-Max® through-hardened cutting edge, 3/4 x 8 in. (19 x 203 mm)	8.5 lb/ft	(13 kg/m)	Scarifier, heavy-duty w/five teeth 1 1/4 x 4 in. (32 x 102 mm)	1313	596
Engine disconnect, cold weather	30	14	Scarifier float control	9	4
Engine side shields	60	27	Seat belt, 3-in. (76 mm)	3	1
Fan, defroster	4	2	Seat, deluxe suspension, cloth covered	111	50
Heater, cab, 19,000 Btu (5.6 kW)	16	7	Seat, deluxe suspension, vinyl covered	58	26
Heater, cab, 38,000 Btu (11.1 kW)	31	14	Sound suppression package (includes bottom guard)	542	246
Heater, cab, 40,000 Btu (11.7 kW)	31	14	Sound suppression package (for use w/ripper)	295	134
Heater, coolant	1	0.5	Tires:		
Heater, roof-mounted, 25,000 Btu (7.3 kW) (add to air conditioner)	17	8	14.00-24, 12 PR, G2	210	95
Hydraulic pump, pressure controlled variable displacement, 6.0 cu. in. (98 cm <sup>3</sup> ) 52.4 gpm (3.3 L/s)	50	23	17.5-25, 12 PR, L2	468	213
Lights, blade	4	2	Toolbox	11	5
Lights, work, 2 front/2 rear floods	12	5	Winter door cam for cab	4	2
Mat, floor	9	4	Wiper, rear windshield	4	2
Mirrors, outside rear view, convex, outside	6	3			
Mirrors, outside rear view, convex, both sides	12	5			
Mirror, outside rear view, flat, one side	6	3			
Mirror, outside rear view, both sides	12	5			
Moldboards:					
12-ft. (3.66 m) w/3/4 x 8 in. (19 x 203 mm) through-hardened, Dura-Max cutting edge	106	48			
13-ft. (3.96 m) w/3/8 x 6 in. (16 x 152 mm) through-hardened, Dura-Max cutting edge	60	27			
13-ft. (3.96 m) w/3/4 x 8 in. (19 x 203 mm) through-hardened, Dura-Max cutting edge	116	53			
14-ft. (4.27 m) w/3/4 x 6 in. (16 x 152 mm) through-hardened, Dura-Max cutting edge	146	66			
14-ft. (4.27 m) w/3/8 x 8 in. (19 x 203 mm) through-hardened, Dura-Max cutting edge	155	70			
Moldboard extensions, 2-ft. (610 mm), right or left (less cutting edge)	220	100			
Moldboard float control	14	6			

770A-H MOTOR GRADER (Dual Power) DIMENSIONS

