

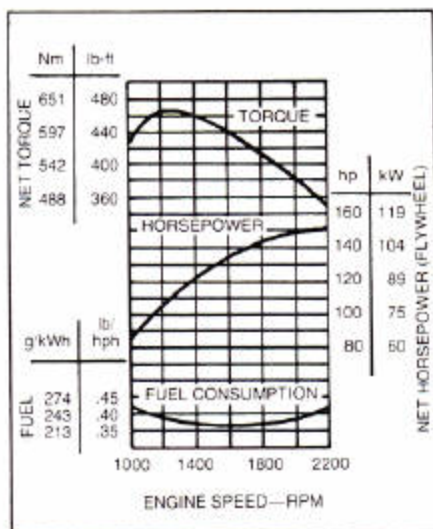


770A MOTOR GRADER



Model shown may include options

ENGINE PERFORMANCE



FEATURES

150 SAE net hp (112 kW)

12-ft. (3.65 m) moldboard with $\frac{3}{8} \times 6$ in. (16 x 152 mm) through-hardened Dura-Max[®] cutting edge guaranteed against breakage, standard; 13- and 14-ft. (3.95 and 4.25 m) moldboards and 2-ft. (610 mm) 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 operational no-leak, drift-free poppet valves

Pushbutton control

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

Oscillating front axle and rear tandem

Hydraulic front-wheel lean

Roll-over protective structure (ROPS) w/cab

ADD VERSATILITY WITH:

Scarifier

Rear-mounted ripper

Snow plow and wings

Bulldozer

Automatic blade control

770A MOTOR GRADER SPECIFICATIONS

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED and SAE Standards. Except where otherwise noted, these specifications are based on a unit equipped with 13.00-24, 12-PR, tubeless tires with 8-in. (203 mm) rims, 12-ft. (3.65 m) moldboard with 8-in. (152 mm) cutting edge, and standard equipment. Weights include lubricants, coolants, full fuel tank and 175-lb. (79 kg) operator.)

Power (@2200 engine rpm):	SAE	DIN
Gross	160 hp (119 kW)	
Net	150 hp (112 kW)	112 kW

Net engine power is with standard equipment including air cleaner, exhaust system, alternator and cooling fan. Gross power is without cooling fan. Power ratings are at standard conditions per SAE J1349 and DIN 70 020. No derating is required up to 10,000 feet (3050 m) altitude.

Engine: John Deere turbocharged and intercooled diesel, vertical 6-cylinder, valve-in-head, 4-stroke cycle

Bore and stroke	4.56×4.75 in. (116×121 mm)
Piston displacement	466 cu. in. (7.638 L)
Compression ratio	14.9 to 1
Maximum torque @ 1300 rpm	465 lb-ft (630 Nm) (64 kg-m)
NACC or AMA (U.S. Tax) horsepower	49.9
Main bearings	7
Lubrication	Pressure system w/full-flow filter
Cooling	Pressurized w/thermostat and controlled bypass
Fan	Suction
Aspirated air cleaner w/restriction indicator	Dry
Electrical system	24-volt w/alternator
Batteries (2)	Reserve capacity: 360 minutes
Alternator	42 amps

Transmission Direct drive, full power shift with planetary gear reductions. Foot inching pedal.

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: (Standard System)
 Closed-center w/pressure controlled 4.0 cu. in. (65 cm³) 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 5/8×6 in. (16×152 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: Nodular cast
 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, 3.5×7×0.5 in. (89×178×13mm) 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 inches cubed (2343 cm cubed)

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 inches cubed (1935 cm cubed)

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. 8 in. (2.29 m)

Capacities
 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 (9 possible) 5
 Lift above ground 24 in. (610 mm)
 Penetration 13.7 in. (348 mm)
 Shank size 1×3 in. (25×76 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 2×5 in. (51×127 mm)
 Lift above ground (shank in upper position) 23.5 in. (597 mm)

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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
 ROPS cab w/seat belt, front wiper and dome light
 Seat, cushioned vinyl
 Transistorized voltage regulator

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	Moldboard extensions, 2-ft. (610 mm), right or left (less cutting edge)	220	100
Air conditioner w/heavy-duty alternator	187	85	Moldboard float control	14	6
Automatic blade control	350	159	Overlay end bits (1 pair), 6 in. (152 mm)	62	28
Articulation indicator	6	3	Overlay end bits (1 pair), 8 in. (203 mm)	77	35
Batteries, heavy-duty w/620-minute reserve capacity	101	46	Rear hitch	61	28
Blade, front bulldozer w/float control	1618	734	Reverse warning alarm	6	3
Bottom guard, heavy-duty w/rear hitch	459	208	Rims:		
Bottom guard, regular	160	73	10 in. (254 mm) for 14.00-24	472	214
Cold-weather starting aid	3	1	14 in. (356 mm) for 17.50-25 tires	674	306
Dura-Max® through-hardened cutting edge, 3/4 x 8 in. (19 x 203 mm)	8.5	(13 lb/ft kg/m)	Ripper, rear mounted with hitch	2474	1123
Engine disconnect	30	14	ROPS canopy w/seat belt and instrument panel cover	-447	-203
Engine side shields	60	27	Scarifier, regular w/five teeth 1 x 3 in. (25 x 76 mm)	1115	506
Fan, defroster	4	2	Scarifier float control	9	4
Heater, cab, 19,000 BTU (5.6 kW)	16	7	Seat belt, 3-in. (76 mm)	3	1
Heater, cab, 38,000 BTU (11.1 kW)	31	14	Seat, deluxe suspension, cloth covered	111	50
Heater, cab, 40,000 BTU (11.7 kW)	31	14	Seat, deluxe suspension, vinyl covered	58	26
Heater, coolant	1	0.5	Sound suppression package (includes bottom guard)	542	246
Heater, roof-mounted, 25,000 BTU (7.3 kW) (add to air conditioner)	17	8	Sound suppression package (for use w/ripper)	295	134
Hydraulic pump, pressure controlled variable displacement, 6.0 cu. in. (98 cm³) 52.4 gpm (3.3 L/s)	50	23	Tires:		
Lights, blade	4	2	14.00-24, 12 PR, G2	270	122
Lights, work, 2 front/2 rear floods	12	5	17.5-25, 12 PR, L2	528	239
Mat, floor	9	4	Toolbox	11	5
Mirrors, outside rear view, convex, outside	6	3	Turn signals	4	2
Mirrors, outside rear view, convex, both sides	12	5	Winter door cam for cab	4	2
Mirror, outside rear view, flat, one side	6	3	Wiper, rear windshield	4	2
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/5/8 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 8 in. (19 x 203 mm) through-hardened, Dura-Max cutting edge	146	66			
14-ft. (4.27 m) w/5/8 x 6 in. (16 x 152 mm) through-hardened, Dura-Max cutting edge	155	70			

770A MOTOR GRADER DIMENSIONS

