**JD670 MOTOR GRADER**

**ENGINE PERFORMANCE**

**FEATURES**

- 125 SAE net hp (126.7 PS)
- 12-ft. (3.66 m) blade standard; 13-ft. (3.96 m) and 14-ft. (4.27 m) blades and 2-ft. (610 mm) extensions available
- Power Shift transmission; 8 speeds forward, 4 reverse
- Articulated frame steering
- Differential lock-unlock
- 22-ft. (6.71 m) turning radius
- All-hydraulic control of blade and machine functions
- Closed-center hydraulic system with built-in, positive hydraulic locks provides instant response without blade drift or creep
- 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 wing
- Bulldozer
- Automatic blade control

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**HORSEPOWER --- 1100 1500 1900 2300**

**FUEL CONSUMPTION**

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<table>
<thead>
<tr>
<th>HORSEPOWER</th>
<th>380</th>
<th>360</th>
<th>320</th>
<th>300</th>
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</thead>
<tbody>
<tr>
<td>ENGINE SPEED (RPM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1100</td>
<td>25</td>
<td>22</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>1500</td>
<td>25</td>
<td>22</td>
<td>20</td>
<td>24</td>
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<tr>
<td>1900</td>
<td>25</td>
<td>22</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>2300</td>
<td>25</td>
<td>22</td>
<td>20</td>
<td>24</td>
</tr>
</tbody>
</table>
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JD670 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, 8-ply rating, tubeless tires, 12 ft. (3.66 m) midshear, and standard equipment.

Power (at 2300 engine rpm): SAE
Gross: 135 hp (100.7 kW*)
Net: 125 hp (93.2 kW) 126.7 PS

Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator, and muffler. The gross engine power is without fan. Flywheel power ratings are under SAE standard conditions of 500-ft. altitude and 85°F. temperature, and DIN 70 300 conditions (non-corrected). No derating is required up to 10,000 ft. (3000 m) altitude.

*In the international system of units (SI), power is expressed in kilowatts (kW).

Engine: John Deere turbocharged diesel, vertical 6-cylinder, valve-in-head, 4-stroke cycle.
Bore and stroke: 4.19x5 in. (106.5x127 mm)
Piston displacement: 414 cu. in. (6784 cm³)
Compression ratio: 16.2 to 1
Maximum torque @ 1300 rpm: 372 lb-ft. (51.4 kg/m)
NACC or AMA (U.S. Tax) horsepower: 42.1

Main bearings: 7

Lubrication: Pressure system w/full-flow filter

Cooling: Pressurized, w/thermostat and fixed bypass

Transmission: Power Shift, 8 forward and 4 reverse selections
Drive: Foot-operated, mechanical, dry-disk, effective on 4 tandem wheels

Batteries: (2) 12-volt
Reserve capacity: 180 minutes

Steering: Foot-operated, hydraulically actuated 

Differential Lock: Foot-operated, hydraulically actuated

Travel Speeds (2300 engine rpm, no tire slip):
Shift Lever Position | mph | km/h
--- | --- | ---
Forward 1 | 2.3 | 3.6
2 | 3.2 | 5.1
3 | 4.8 | 7.8
4 | 6.3 | 10.1
5 | 6.2 | 12.2
6 | 10.5 | 17.0
7 | 14.1 | 22.8
Reverse 1 | 2.8 | 4.5
2 | 3.9 | 6.3
3 | 5.9 | 9.5
4 | 7.6 | 12.3

Final Drives: Inboard planetary

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

Frame: Rear mainframe: Welded box section from articulation joint to mainframe
Top and bottom plate, width: 8.25 in. (210 mm)
Side plates, minimum height: 13.15 in. (334 mm)
Weight per ft., min.: 93 lb. (138.4 kg/m)
Minimum vertical-section modulus: 104.52 in. cubed

Front mainframe: Formed box section from mainframe arch to front hood
Width: 8.25 in. (210 mm)
Height, min.: 12.3 in. (312 mm)
Weight per ft. (m), min.: 75.6 lb. (112.5 kg/m)
Minimum vertical section modulus: 69.44 in. cubed

Tandems: Welded steel box section, 27x7.56 in.

Drive: 2 in. (50.8 mm) pitch roller chain
Axle dia. at bearings: 3.63 in. (92 mm)

Front Axle: Fabricated steel box-frame with steel spindles, tapered roller bearings
Diameter at bearing seats: 3.54 in. (89 mm)
Total oscillation: 30 deg.
Wheel lean (either direction): 20 deg.

Rear Drive Axle: Full floating with tapered roller bearings
Diameter at bearings: 3.348 in. (85 mm)

Tires:
13.00-24, 8-10 or 12-ply rating: 8-in. rim
14.00-24, 10- or 12-ply rating: 8 or 10-in. rim
17.5-25, 16-ply rating: 14-in. rim

Dimensions:

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Wheel Tread Width</th>
<th>Ground Clearance (Front Axle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.00-24</td>
<td>76.00 in. (1.94 m)</td>
<td>7 ft. 10 in. (2.34 m) 1 ft. 10 in. (509 mm)</td>
</tr>
<tr>
<td>14.00-24</td>
<td>76.00 in. (1.94 m)</td>
<td>8 ft. 8 in. (2.44 m) 1 ft. 10.5 in. (531 mm)</td>
</tr>
<tr>
<td>17.5-25</td>
<td>78.36 in. (2.01 m)</td>
<td>8 ft. 8 in. (2.44 m) 1 ft. 11.2 in. (569 mm)</td>
</tr>
</tbody>
</table>

Height to top of steering wheel: 7 ft. 4.4 in. (2.25 m)

Capacities

U.S. | Liters
--- | ---
Fuel tank: | 60 gal. | 227
Cooling system: | 7 gal. | 26.5
Engine lubrication, including filter: | 20 qt. | 18.9
Transmission and hydraulic system: | 28 gal. | 106
Tandem housings (each): | 4 gal. | 15.1
Worm gearbox: | 3 qt. | 2.8
**Scarifier (Special Equipment):**
V-type for 4 ft. (1.22 m) cut with 3 manual pitch positions and hydraulic float
Number of teeth (9 possible) ......................................... 5
Lift above ground ...................................................... 1 ft. 10 in. (359 mm)
Penetration ............................................................... 12 in. (305 mm)
Shank size ............................................................... 1.25 x 4 in. (31.7 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 ...................................................... 1 ft. 2.5 in. (388 mm)
Penetration ............................................................... 1 ft. 2 in. (356 mm)
Shank size ............................................................... 2 x 5 in. (51 x 127 mm)
Lift above ground (shanks in upper position) .............. 1 ft. 11.5 in. (357 mm)

**Additional Standard Equipment:**
Transistorized voltage regulator
Lights (2 white front w/stop and taillight)
Work lights (2 front and 2 rear floods)
Turn signals
Cigarette lighter
Horn
Deluxe seat
Air filter indicator
Mechanical hourmeter
Ether starting aid
Vandal protection

**Special Equipment:**
Scarifier
Below-cab blade lights
Bench seat
Cab heater
Cab defroster fan
ROPS canopy w/seat belt
Coolant heater
2-ft. (610 mm) moldboard extensions, right or left
13-ft. (3.96 m) and 14-ft. (4.27 m) moldboards
Overlay and bits

**Gauges:**
Water temperature
Transmission temperature
Transmission lube
Transmission pressure
Engine oil pressure
Fuel gauge
Precleaner
ROPS cab w/seat belt
Front windshield wiper
Rear windshield wiper
Floor mat
Engine side-shields

**Transmission bottom guard**
Rear-mounted ripper w/drawbar hitch
Drawbar hitch
Toolbox
Articulation indicator
Engine disconnect
Reverse warning alarm
Sound baffled engine
Side shields
Heavy-duty cutting edges
3-in. seat belt
Automatic blade control

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**JD670 MOTOR GRADER DIMENSIONS**

<table>
<thead>
<tr>
<th>SAE Operating Weight</th>
<th>On Front Wheels</th>
<th>On Rear Wheels</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard equipment...</td>
<td>7653 lb. (3471 kg)</td>
<td>18,177 lb. (8245 kg)</td>
<td>25,830 lb. (11,716 kg)</td>
</tr>
<tr>
<td>Standard equipment...</td>
<td>8767 lb. (3977 kg)</td>
<td>18,177 lb. (8245 kg)</td>
<td>26,944 lb. (12,222 kg)</td>
</tr>
<tr>
<td>Standard equipment...</td>
<td>7970 lb. (3615 kg)</td>
<td>21,474 lb. (9741 kg)</td>
<td>29,444 lb. (13,356 kg)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft. 6 in.</td>
<td>3.20 m</td>
</tr>
<tr>
<td>8 ft. 9.3 in.</td>
<td>2.67 m</td>
</tr>
<tr>
<td>5 ft. 0.71 in.</td>
<td>1.54 m</td>
</tr>
<tr>
<td>8 ft. 4 in.</td>
<td>2.54 m</td>
</tr>
<tr>
<td>19 ft. 7 in.</td>
<td>5.97 m</td>
</tr>
<tr>
<td>27 ft. 3.2 in.</td>
<td>8.31 m</td>
</tr>
<tr>
<td>29 ft. 2.6 in.</td>
<td>8.90 m</td>
</tr>
<tr>
<td>31 ft. 8.2 in.</td>
<td>9.66 m</td>
</tr>
</tbody>
</table>

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**On Front**

- SAE Operating Weight: 7653 lb. (3471 kg)
- On Front Wheels: 18,177 lb. (8245 kg)

**On Rear**

- SAE Operating Weight: 8767 lb. (3977 kg)
- On Rear Wheels: 21,474 lb. (9741 kg)

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**On Total**

- SAE Operating Weight: 7970 lb. (3615 kg)
- On Total: 29,444 lb. (13,356 kg)