IJD770 MOTOR GRADER

ENGINE PERFORMANCE

<table>
<thead>
<tr>
<th>Horsepower</th>
<th>Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>220</td>
</tr>
<tr>
<td>160</td>
<td>240</td>
</tr>
<tr>
<td>180</td>
<td>280</td>
</tr>
<tr>
<td>200</td>
<td>320</td>
</tr>
</tbody>
</table>

FEATURES

142 SAE net hp (144 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 no-leak, drift-free poppet valves
Push-button 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
JD770 MOTOR GRADER SPECIFICATIONS

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICE and SAE Standards. Except where otherwise noted, these specifications are based on a unit equipped with 13.00-24, 10-ply-rating, tubeless tires, 15-ft. (3.86 m) moldboard, and standard equipment.)

Power (at 2200 engine rpm): SAE
Gross ........................................... 152 hp (113.5kW*)
Net ............................................... 142 hp (106 kW)

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 70 000 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 .................................. 4.75x3 in. (120.6x78 mm)
Piston displacement ................................. 531 cu. in. (8702 cm³)
Compression ratio .................................. 15.8 to 1
Maximum torque @ 1,400 rpm .......... 440 lb-ft (597 Nm) (60.9 kg-m)

Engine
John Deere Turbocharged diesel, vertical 6-cylinder, valve-in-head, 4-stroke cycle

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 70 000 conditions (non-corrected). No derating is required up to 10,000 ft. (3000 m) altitude.

Transmission. Power Shift, 8 forward and 4 reverse selections

Differential Lock .................................. Foot-operated, hydraulically actuated

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

<table>
<thead>
<tr>
<th>Shift Lever Position</th>
<th>mph</th>
<th>km/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward 1</td>
<td>2.3</td>
<td>3.7</td>
</tr>
<tr>
<td>2</td>
<td>3.3</td>
<td>5.3</td>
</tr>
<tr>
<td>3</td>
<td>5.2</td>
<td>8.4</td>
</tr>
<tr>
<td>4</td>
<td>6.7</td>
<td>10.8</td>
</tr>
<tr>
<td>5</td>
<td>8.5</td>
<td>13.7</td>
</tr>
<tr>
<td>6</td>
<td>11.5</td>
<td>18.5</td>
</tr>
<tr>
<td>7</td>
<td>14.6</td>
<td>23.5</td>
</tr>
<tr>
<td>8</td>
<td>25.1</td>
<td>40.4</td>
</tr>
<tr>
<td>Reverse 1</td>
<td>3.0</td>
<td>4.8</td>
</tr>
<tr>
<td>2</td>
<td>4.2</td>
<td>6.8</td>
</tr>
<tr>
<td>3</td>
<td>6.6</td>
<td>10.7</td>
</tr>
<tr>
<td>4</td>
<td>8.6</td>
<td>13.9</td>
</tr>
</tbody>
</table>

Final Drives ................................... Inboard planetary

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

Steering: Full hydraulic power system
Front ........................................... 47.5 deg. left or right
Rear ........................................... Hydraulically articulated frame steering (25 deg. left or right)

Turning radius .................................. 22 ft. (6.71 m)

Hydraulic System: Closed-center
Standby pressure ......................... 2250 psi (155.1 bar) (158.2 kg/cm²)
Pump ........................................... Variable-displacement, 57 gpm (216 l/min) @ 2200 engine rpm

Circle: 5 ft. (1.5 m) dia., welded angle
Rotation ................................. 360 deg.

Drive ........................................... Hydraulic motor and worm gear

Drawbar ........................................ Welded box, 3.5x7x0.5 in. (89x178x13 mm) wall, w/ball and socket pivot

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

Blade Lifting Mechanism: Control Dual-lever, hydraulic
Cylinders (2) ............................. 3.5 in. (89 mm) dia. bore, 45 in. (1.25 m) stroke

Blade Range:
Lift above ground .......................... 1 ft. 5 in. (432 mm)
Blade side shift: Right or left ........ 2 ft. 2.9 in. (683 mm)
Shoulder reach outside wheels: Right .......................... 7 ft. 8.5 in. (236 mm)
Left .......................................... 7 ft. 8 in. (234 mm)
Pitch .......................................... 35 deg, total

Lift Arms:
Positions ..................................... 7
Control ....................................... Hydraulic, foot operated

Frame:
Rear mainframe ... Flanged box section from articulation joint to mainframe arch
Total oscillation .......................... 30 deg.
Wheel lean (either direction) .......... 20 deg.

Front Axle: Fabricated steel box-frame, tapered roller bearings
Diameter at bearing seats .................. 1.87 in. (48 mm)
Total oscillation .......................... 30 deg.

Rear Drive Axle: Full floating with tapered roller bearings
Diameter at bearings ......................... 3.60 in. (92 mm)

Tires
13.00-24, 10- or 12-ply rating; 5-in. rim
14.00-24, 10- or 12-ply rating; 6- or 8-in. rim
17.5-25, 12-ply rating; 14-in. rim

Dimensions:

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Wheel Tread</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.00-24</td>
<td>7.60 in. (194 mm)</td>
<td>7 ft. 10 in. (234 cm)</td>
</tr>
<tr>
<td>14.00-24</td>
<td>7.60 in. (194 mm)</td>
<td>8 ft. 8 in. (244 cm)</td>
</tr>
<tr>
<td>17.5-25</td>
<td>7.36 in. (188 mm)</td>
<td>8 ft. 6 in. (259 cm)</td>
</tr>
</tbody>
</table>

Height to top of steering wheel ........ 7 ft. 6 in. (239 cm)

Capacities
U.S. Gallons
Fuel tank ......................... 70 gal. 265 l
Cooling system .................... 10 gal. 37 l
Engine lubrication, including filter .. 22 qt. 20.8 l
Transmission and hydraulic system .. 31 gal. 117.3 l

Tandem housings (each) .......... 4 gal. 15 l
Worm gearbox .............................. 3 qt. 2.8 l

Dimensions (Front Axle):

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Wheel Tread</th>
<th>Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.00-24</td>
<td>7.60 in. (194 mm)</td>
<td>7 ft. 10 in. (234 cm)</td>
</tr>
<tr>
<td>14.00-24</td>
<td>7.60 in. (194 mm)</td>
<td>8 ft. 8 in. (244 cm)</td>
</tr>
<tr>
<td>17.5-25</td>
<td>7.36 in. (188 mm)</td>
<td>8 ft. 6 in. (259 cm)</td>
</tr>
</tbody>
</table>

Height to top of steering wheel ........ 7 ft. 6 in. (239 cm)

Capacity
U.S. Gallons
Oil filter ......................... 70 gal. 265 l
Cooling system .................... 10 gal. 37 l
Engine lubrication, including filter .. 22 qt. 20.8 l
Transmission and hydraulic system .. 31 gal. 117.3 l

Tandem housings (each) .......... 4 gal. 15 l
Worm gearbox .............................. 3 qt. 2.8 l
**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. (559 mm)
- Penetration: 12 in. (305 mm)
- Shank size: 1.25x4 in. (31.7x102 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. (368 mm)
- Penetration: 1 ft 2 in. (366 mm)
- Shank size: 2x5 in. (51x127 mm)
- Lift above ground (shank in upper position): 1 ft 11.5 in. (397 mm)

**Additional Standard Equipment**:
- Transistorized voltage regulator
- Work lights (2 front and 2 rear floods)
- Turn signals
- Cigaret lighter
- Horn
- Deluxe seat
- Coolant heater
- Moldboard float position

**Special Equipment**:
- Scarifier
- Below-cab blade lights
- Cab heater
- Cab defroster fan
- ROPS canopy w/seat belt
- Coolant heater
- 2-ft. (610 mm) moldboard extensions, right or left
- Overlay end bits
- Transmission bottom guard

**Additional Standard Equipment**:
- Water temperature
- Transmission temperature
- Transmission lube
- Transmission pressure
- Engine oil pressure
- Fuel gauge
- Pre heater
- ROPS cab w/seat belt
- Front windshield wiper
- Rear windshield wiper
- Floor mat
- Engine side-shields

**S A E O p e r a t i n g W e i g h t**
- Standard equipment: 8220 lb. (3729 kg)
- Standard equipment, and scarifier: 9434 lb. (4279 kg)
- Standard equipment, scarifier and ripper: 8637 lb. (3918 kg)

**On Front**
- Wheels: 21,625 lb. (9599 kg)
- Wheels: 24,922 lb. (11 305 kg)

**On Rear**
- Wheels: 21,625 lb. (9599 kg)
- Wheels: 29,845 lb. (13538 kg)

**Total**
- 29,845 lb. (13538 kg)
- 33,559 lb. (15 222 kg)

**Gauges**:
- Water temperature
- Transmission temperature
- Transmission lube
- Transmission pressure
- Engine oil pressure
- Fuel gauge