410B BACKHOE LOADER

Model shown may include options

ENGINE PERFORMANCE

<table>
<thead>
<tr>
<th>Nm</th>
<th>lb-ft</th>
<th>hp</th>
<th>kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>244</td>
<td>180</td>
<td>217</td>
<td>160</td>
</tr>
<tr>
<td>217</td>
<td>160</td>
<td>190</td>
<td>140</td>
</tr>
<tr>
<td>190</td>
<td>140</td>
<td>160</td>
<td>120</td>
</tr>
<tr>
<td>160</td>
<td>120</td>
<td>180</td>
<td>110</td>
</tr>
<tr>
<td>180</td>
<td>110</td>
<td>213</td>
<td>80</td>
</tr>
</tbody>
</table>

FEATURES

62 SAE net hp (46.2 kW)
Backhoe digging depth (SAE) 14 ft. 6 in. (4.42 m)
Unitized frame
Isolated engine and operator's station
Walk-in front entry
Designed for quietness
Closed-center hydraulic system
Weight distributed for working stability
Self-adjusting hydraulic wet-disk brakes
Inboard planetary final drives
Transaxle 1st and 2nd collar shift, 3rd and 4th synchronized
Full-power-shift reverser
Torque converter
Single-lever loader control
Two-lever backhoe control
Two-lever stabilizer control
Stabilizer lockouts—raise and lower
Multi-adjustable swing-around seat w/high backrest and armrests
Hydrostatic power steering
Soundproofed cab w/integral ROPS/FOPS
Vandal protection w/built-in locks

ADD VERSATILITY WITH:

Mechanical front-wheel drive with wet clutch—engage on the go
Offset driveshaft for better ground clearance
Extendable dipperstick

With optional turbocharger
**410B BACKHOE LOADER 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 17.5L-24, 10 PR, R4 rear tires; 11L-15, 10 PR, F3 front tires; 1.0-cu.-yd. (0.76 m³) loader bucket; 24-in. (610 mm) standard duty backhoe bucket, ROPS/FOPS, full fuel tank and 175-hp. (79 kgf) engine.)

**Rated Power @2500 rpm:**
- **Net:** 62 hp (46.2 kW) 49 kW
- **Gross:** 66 hp (49.2 kW) 4.2

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 @ 35 API gravity. No derating is required up to 5000 feet (1500 m) altitude. With optional AC*, 10,000 feet (3050 m) altitude.) Gross power is without cooling fan.

*Altitude compensating turbocharger

**Engine:** John Deere 4-219D

- **Type:** 4-stroke cycle, naturally aspirated diesel
- **Displacement:** 219 cu.in. (3.589 L)
- **Bore and stroke:** 4.02 x 4.33 in. (102 x 110 mm)
- **Compression ratio:** 16.2 to 1
- **Cooling fan:** Suction
- **Lubrication:** Pressure system with full-flow filter and cooler
- **Main bearings:** 5
- **Air cleaner:** Dry, 12 volt
- **Electronic system:** 51 ampe w/cab, 35 amps regular
- **Screen:** Tinted tempered safety glass

**Transmission:**

Manual shift with first and second speeds having sliding collar synchronizers and third and fourth speeds engaged with cone-type synchronizers. Single shift lever, floor mounted.

**Travel Speeds:**

<table>
<thead>
<tr>
<th>Gear</th>
<th>Forward mph (km/h)</th>
<th>Reverse mph (km/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5.1 (8.2)</td>
<td>2.4 (3.9)</td>
</tr>
<tr>
<td>2</td>
<td>10.2 (16.5)</td>
<td>5.1 (8.2)</td>
</tr>
<tr>
<td>3</td>
<td>15.3 (24.6)</td>
<td>8.2 (13.2)</td>
</tr>
<tr>
<td>4</td>
<td>20.4 (32.8)</td>
<td>11.3 (18.2)</td>
</tr>
<tr>
<td>5</td>
<td>25.5 (41.0)</td>
<td>14.3 (23.0)</td>
</tr>
<tr>
<td>6</td>
<td>30.6 (49.3)</td>
<td>17.2 (27.7)</td>
</tr>
</tbody>
</table>

**Final Drives:**

Planetary, inboard

**Service Brakes:**

Hydraulic, applied with separate pedals; hydraulically equalized when both pedals are depressed. Wet disks and facings are fully enclosed and self-adjusting.

**Secondary Brake:**

Mechanical "V" groove band located on differential ring gear

**Steering:**

Hydrostatic power

Steering axle, regular:

- **Turning radius (brake applied):** 10 ft. 3 in. (3.12 m)
- **Clearance circle (brake applied):** 12 ft. 10 in. (3.91 m)
- **Steering wheel turns, left to right:** 2.9 right to left: 3.9
- **Axle oscillation stop to stop:** 22 deg.

Mechanical front-wheel drive (engaged):

- **Turning radius (brake applied):** 12 ft. 10 in. (3.91 m)
- **Clearance circle (brake applied):** 30 ft. 6 in. (9.30 m)
- **Steering wheel turns, left to right:** 3.2 right to left: 3.2
- **Axle oscillation stop to stop:** 22 deg.

**Hydraulic System:**

Closed-centered (variable flow, constant pressure)

- **Pressure:** 2500 psi (17,238 kPa) (175.8 kg/cm²)
- **Pump:** 8 radial pistons, variable flow
- **Flow:** 2200 psi (15.170 kPa) (154.7 kg/cm²)
- **Filter, return oil:** 10 micron, steel-enclosed replaceable element
- **Screen, pressure oil:** 50/65 (40/50) mesh

**Tires:**

Front: 12.00-16, 10 PR, R4
Rear: 11L-15, 8 PR, F3

**Wheelbase:**

Front: 12 ft. 6 in. (3.81 m)
Rear: 6 ft. 2 in. (1.88 m)

**Axle Ratings:**

- **Static Rating:**
  - Front: 56,000 lb. (25,450 kg)
  - Rear: 51,000 lb. (23,170 kg)

- **Dynamic Rating:**
  - Front: 56,000 lb. (25,450 kg)
  - Rear: 51,000 lb. (23,170 kg)

**Hydraulic Cylinders:**

| Loader boom (2) | 3.25 in. | 30.0 in. | 1.75 in. |
| Loader bucket (1) | 3.5 in. | 69.8 in. | 4.5 in. |
| Backhoe boom (1) | 4.5 in. | 36.5 in. | 2.25 in. |
| Backhoe crowd (1) | 3.5 in. | 27.4 in. | 2.25 in. |
| Backhoe swing (2) | 4.0 in. | 9.5 in. | 2.0 in. |
| Backhoe extendable dipper (1) | 2.5 in. | 48.1 in. | 1.25 in. |
| Backhoe stabilizers (2) | 4.0 in. | 20.3 in. | 2.0 in. |
| Steering (1) regular axle | 2.0 in. | 9.5 in. | 1.0 in. |
| Steering (1) MFWD | 2.0 in. | 12.6 in. | 1.0 in. |

**Fuel tank:**

- **Contaminant sump:**
  - 11-in. (279 mm) diameter, stall torque ratio 2.18:1.
- **Type:** Dual stage, dual phase, overrunning synchronizers. Single shift lever, floor mounted.
- **Engagement and third and fourth speeds engaged with cone-type synchronizers. Single shift lever, floor mounted.

**Transmission:**

- **Manual shift with first and second speeds having sliding collar synchronizers and third and fourth speeds engaged with cone-type synchronizers. Single shift lever, floor mounted.

**Service Brakes:**

Hydraulic, applied with separate pedals; hydraulically equalized when both pedals are depressed. Wet disks and facings are fully enclosed and self-adjusting.

**Secondary Brake:**

Mechanical "V" groove band located on differential ring gear

**Steering:**

Hydrostatic power

Steering axle, regular:

- **Turning radius (brake applied):** 10 ft. 3 in. (3.12 m)
- **Clearance circle (brake applied):** 29 ft. 6 in. (9.00 m)
- **Steering wheel turns, left to right:** 2.9 right to left: 3.9
- **Axle oscillation stop to stop:** 22 deg.

Mechanical front-wheel drive (engaged):

- **Turning radius (brake applied):** 12 ft. 10 in. (3.91 m)
- **Clearance circle (brake applied):** 30 ft. 6 in. (9.30 m)
- **Steering wheel turns, left to right:** 3.2 right to left: 3.2
- **Axle oscillation stop to stop:** 22 deg.

**Hydraulic System:**

Closed-centered (variable flow, constant pressure)

- **Pressure:** 2500 psi (17,238 kPa) (175.8 kg/cm²)
- **Pump:** 8 radial pistons, variable flow
- **Flow:** 2200 psi (15.170 kPa) (154.7 kg/cm²)
- **Filter, return oil:** 10 micron, steel-enclosed replaceable element
- **Screen, pressure oil:** 50/65 (40/50) mesh

**SAE Operating Weight:**

14,400 lb. (6545 kg)
**410B BACKHOE LOADER SPECIFICATIONS AND DIMENSIONS**

**Key:**
A. Loading height, truck loading position ........... 11 ft. 9 in. (3.59 m)
B. Reach from center of swing mast .................. 17 ft. 7 in. (5.36 m)
C. Reach from center of rear axle .................... 21 ft. 5 in. (6.53 m)
D. Digging depth (SAE):
   (1) 2-ft. (610 mm) flat bottom .................. 14 ft. 5 in. (4.40 m)
   (2) 8-ft. (2440 mm) flat bottom .............. 13 ft. 3 in. (4.04 m)
E. Maximum digging depth .......................... 21 ft. 7 in. (6.58 m)
F. Ground clearance, minimum ....................... 11 ft. 5 in. (3.48 m)
G. Bucket rotation ................................ 123, 127/155 degrees
H. Transport height .................................. 11 ft. 5 in. (3.48 m)
J. Overall length, transport ......................... 23 ft. (7.01 m)
K. Stabilizer width—transport ....................... 7 ft. 8 in. (2.34 m)
L. Stabilizer spread—operating ..................... 9 ft. 10 in. (3 m)
M. Overall width (less loader bucket) ............... 80.7 in. (2050 mm)

**Digging force, bucket cylinder**
- Power dig position .................................. 10,200 lb. (45.4 kN) (4625 kg)
- Retracted ............................................ 6600 lb. (29.4 kN) (2995 kg)

**Swing arc**
- Two levers .......................................... 180 degrees

**Operator control**
- Two levers .......................................... 180 degrees

**Bucket positions**
- 12 or 20 deg. rollback/6 deg. forward ............ 13 degrees
- 12 or 20 deg. rollback/6 deg. forward ............ 13 degrees
- 12 or 20 deg. rollback/6 deg. forward ............ 13 degrees
- 12 or 20 deg. rollback/6 deg. forward ............ 13 degrees

**Stabilizer angle rearward**
- 13 degrees ........................................... 2440 lb. (1110 kg)

**Lifting capacity, maximum boom @65°**
- 4200 lb. (1920 kg)
- 10,200 lb. (45.4 kN) (4625 kg)
- 6360 lb. (28.3 kN) (2880 kg)
- 4360 lb. (19.4 kN) (1880 kg)

**Extendable Dipperstick**

<table>
<thead>
<tr>
<th>Retracted</th>
<th>Extended</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ft. 5 in. (3.17 m)</td>
<td>12 ft. 10 in. (3.91 m)</td>
</tr>
<tr>
<td>17 ft. 5 in. (5.28 m)</td>
<td>21 ft. 7 in. (6.58 m)</td>
</tr>
<tr>
<td>21 ft. 7 in. (6.58 m)</td>
<td>25 ft. 5 in. (7.75 m)</td>
</tr>
<tr>
<td>14 ft. 7 in. (4.44 m)</td>
<td>18 ft. 6 in. (5.64 m)</td>
</tr>
<tr>
<td>13 ft. 6 in. (4.12 m)</td>
<td>17 ft. 4 in. (5.28 m)</td>
</tr>
<tr>
<td>14 ft. 7 in. (4.44 m)</td>
<td>18 ft. 6 in. (5.64 m)</td>
</tr>
<tr>
<td>12 in. (305 mm)</td>
<td>12 in. (305 mm)</td>
</tr>
<tr>
<td>123, 127/155 degrees</td>
<td>123, 127/155 degrees</td>
</tr>
<tr>
<td>11 ft. 5 in. (3.48 m)</td>
<td>11 ft. 5 in. (3.48 m)</td>
</tr>
<tr>
<td>23 ft. (7.01 m)</td>
<td>23 ft. (7.01 m)</td>
</tr>
<tr>
<td>7 ft. 8 in. (2.34 m)</td>
<td>7 ft. 8 in. (2.34 m)</td>
</tr>
<tr>
<td>9 ft. 10 in. (3 m)</td>
<td>9 ft. 10 in. (3 m)</td>
</tr>
<tr>
<td>80.7 in. (2050 mm)</td>
<td>80.7 in. (2050 mm)</td>
</tr>
</tbody>
</table>

**Extendable Dipperstick Diagram**

- Retracted:
  - Extendable Dipperstick: 10 ft. 5 in. (3.17 m) Retracted, 12 ft. 10 in. (3.91 m) Extended
  - Digging depth:
    - Flat bottom: 10 ft. 5 in. (3.17 m), 12 ft. 10 in. (3.91 m)
  - Transport height: 11 ft. 5 in. (3.48 m)
  - Overall length: 23 ft. (7.01 m)
  - Stabilizer width: 7 ft. 8 in. (2.34 m)
  - Overall width: 80.7 in. (2050 mm)

- Extended:
  - Extendable Dipperstick: 10 ft. 5 in. (3.17 m) Retracted, 12 ft. 10 in. (3.91 m) Extended
  - Digging depth:
    - Flat bottom: 10 ft. 5 in. (3.17 m), 12 ft. 10 in. (3.91 m)
  - Transport height: 11 ft. 5 in. (3.48 m)
  - Overall length: 23 ft. (7.01 m)
  - Stabilizer width: 7 ft. 8 in. (2.34 m)
  - Overall width: 80.7 in. (2050 mm)
410B BACKHOE LOADER LIFTING CAPACITIES

Lifting Capacities: Ratings made from bucket hinge pin, loader bucket and stabilizers on firm, level ground. Lifting capacities are 87 percent of the maximum lift over any point on the swing arc and do not exceed 75 percent of the tipping load. Angle between boom and ground at 65 degrees. Machine equipped with 24-in. (610 mm) trenching bucket, standard or optional dipperstick (as indicated below) and standard equipment.

Lift Capacity
Backhoe with standard dipperstick.
Based on SAE J31 (except w/loader bucket on ground*).

<table>
<thead>
<tr>
<th>Lift Capacity</th>
<th>Lift Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backhoe with extendable dipperstick, retracted.</td>
<td>Backhoe with extendable dipperstick, extended.</td>
</tr>
<tr>
<td>Based on SAE J31 (except w/loader bucket on ground*).</td>
<td>Based on SAE J31 (except w/loader bucket on ground*).</td>
</tr>
</tbody>
</table>

Rated lift capacities are in lb. (kg)
Lift capacities are hydraulically limited.

*Loading bucket on ground significantly improves side stability, therefore improving lift capacity to the side. Lift capacity over the rear is not affected.
410B BACKHOE LOADER

LOADING:
Operator control: Single lever
Rollback at ground level: .40 degrees
Breakout force: 7800 lb. (34.7 kN) (3540 kg)
Digging depth below ground, bucket level: 4 in. (100 mm)
Lifting capacity, full height: 5300 (2400 kg)
Height to bucket hinge pin, max.: 11 ft. (3.35 m)
Bucket dump angle, max.: 45 degrees
Dump clearance, bucket @ 45 degrees: 9 ft. (2.74 m)
Reach at full height, bucket @ 45 degrees: 28 in. (710 mm)
Raising time to full height: 4.4 sec.
Bucket dump time: 1.0 sec.
Bucket lowering time (power down): 3.0 sec.

Optional or Special Equipment:
Altitude-compensating engine turbocharger
Automatic return-to-dig
Cab pressurizer
Cab with:
51-amp alternator
Fabric-covered swivel seat, suspension or non-suspension
Front defroster fan
Front and rear wipers
Integral ROPS/FOPS
Standard heater — 19,000 Btu (5.6 kW)
Cold-weather starting aid, remote mounted
Deluxe heater w/fresh air intake — 40,000 Btu (11.7 kW)
Economy seat, vinyl covered, suspension or rigid mounted
Engine coolant heater
Extendable dipperstick for backhoe
Fire extinguisher
Front counterweight
Instrument panel vandal cover
Mechanical front-wheel drive
Rear defroster fan
Rear-view mirror, inside mounted, curved, heavy-duty
Rear wheel spacers for tire chain clearance
Reversible stabilizer pads
Ripper tooth for backhoe, 24 in. (610 mm)
Rotating beacon light
Swivel seat, vinyl covered, suspension or non-suspension
SMV emblem
3-in. (76 mm) seat belt
Three- or four-lever, pedal-swing backhoe controls
Toolbox

BUCKETS

<table>
<thead>
<tr>
<th>Width</th>
<th>Struck Capacity</th>
<th>Heaped Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>In. (mm)</td>
<td>Cu. Ft. (m³)</td>
<td>Cu. Yd. (m³)</td>
</tr>
<tr>
<td>Loader:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General purpose</td>
<td>92 (2340)</td>
<td>1.0 (0.75)</td>
</tr>
<tr>
<td>Long lip</td>
<td>89.4 (2270)</td>
<td>1.25 (1.00)</td>
</tr>
<tr>
<td>Backhoe:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard-duty</td>
<td>12 (305)</td>
<td>2.6 (0.07)</td>
</tr>
<tr>
<td></td>
<td>16 (406)</td>
<td>3.7 (0.10)</td>
</tr>
<tr>
<td></td>
<td>18 (457)</td>
<td>4.2 (0.12)</td>
</tr>
<tr>
<td></td>
<td>24 (610)</td>
<td>5.9 (0.17)</td>
</tr>
<tr>
<td></td>
<td>30 (762)</td>
<td>7.5 (0.21)</td>
</tr>
<tr>
<td>Heavy-duty</td>
<td>18 (457)</td>
<td>4.2 (0.12)</td>
</tr>
<tr>
<td></td>
<td>24 (610)</td>
<td>5.9 (0.17)</td>
</tr>
<tr>
<td></td>
<td>30 (762)</td>
<td>7.5 (0.21)</td>
</tr>
<tr>
<td>Ejector</td>
<td>24 (610)</td>
<td>4.6 (0.13)</td>
</tr>
</tbody>
</table>

Additional Available Equipment:
Auxiliary bolt-on cutting edge for loader buckets
Auxiliary fuel tank
Auxiliary hydraulic valves and circuit for loader and backhoe
Backhoe lift eye
Bolt-on teeth for loader bucket
Front windshield and door kit
Grille guard
Lateral slides for operator's seat
Loader bucket chain hooks, outer
Longer dippersticks
Light materials/snow loader buckets
Multipurpose loader buckets
1½ cu. yd. (1.01 m³) bucket
Radio or radio cassette

*See your John Deere dealer for further information.

Extendable Dipperstick