310C BACKHOE LOADER

Model shown may include options

FEATURES

- 65 SAE net hp (48.5 kW)
- Backhoe digging depth (SAE) 14 ft. 3 in. (4.34 m)
- Unitized frame—pin-on backhoe
- Isolated engine and operator's station
- Walk-in front entry
- Designed-in quietness
- Open-center hydraulic system
- O-ring face seal hydraulic plumbing
- 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 with anti-drift lock-outs

ENGINE PERFORMANCE

<table>
<thead>
<tr>
<th>Engine Speed-RPM</th>
<th>Power kW</th>
<th>Net Torque Nm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500</td>
<td>30</td>
<td>220</td>
</tr>
<tr>
<td>1600</td>
<td>32</td>
<td>244</td>
</tr>
<tr>
<td>1700</td>
<td>40</td>
<td>271</td>
</tr>
<tr>
<td>1800</td>
<td>45</td>
<td>291</td>
</tr>
<tr>
<td>1900</td>
<td>50</td>
<td>317</td>
</tr>
<tr>
<td>2000</td>
<td>52</td>
<td>327</td>
</tr>
</tbody>
</table>

*Depending on operating variables

Multi-adjustable swivel seat
Hydrostatic power steering
Optional cab w/integral ROPS/FOPS
Vandal protection w/built-in locks
ADD VERSATILITY WITH:
Mechanical front-wheel drive with:
Offset driveshaft for better ground clearance
Extendable dipperstick

Model shown may include options
### 310C 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 17.5-L-24, 10 PR, R4 rear tires, 11L-15, 8 PR, F3 front tires, 1.0 cu. yd. (0.76 m³) loader bucket, 24-in. (610 mm) standard-duty backhoe bucket, 310C attachment, full fuel tank and 17 lb. (8 kg) operator.

**Rated Power @ 2200 rpm:**

<table>
<thead>
<tr>
<th>SAE</th>
<th>DIN 70 020</th>
</tr>
</thead>
<tbody>
<tr>
<td>65 hp (48.5 kW)</td>
<td>49.5 kW</td>
</tr>
</tbody>
</table>

**Diameter, stall torque ratio 2.83:1.**

**Secondary Brake:**

- Travel Speeds:
  - With standard 17.5L-24, 10 PR, R4 tires: 22 deg. M mech. FI.
  - With MFWD 19.5L-24, 8 PR, R4 tires: (required) rear and 12.00-16.5, 8 PR, lug tread

**Engine:**

- John Deere 4239D
- Type: 4-stroke cycle, naturally aspirated diesel
- Bore and stroke: 4.19 x 4.33 in. (106.5 x 110 mm)
- No. of cylinders: 4
- Displacement: 239 cu.in. (3.917L)
- Bore and stroke: 4.19 x 4.33 in. (106.5 x 110 mm)
- Maximum net torque @ 1200 rpm: 186 lb-ft (252 Nm) (25.7 kg-m)
- Cooling fan: Suction
- Compression ratio: 17.8 to 1
- Lubrication: Pressure system w/full-flow filter and cooler
- Air cleaner: Dry type w/safety exhaust
- Alternator: 12 volt
- Electrical system: 12 volt

**Transmission:**

- Manual shift with first and second speeds having sliding collar engagement 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>3.3 5.3 3.0 4.8</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5.7 9.2 5.1 8.2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>12.3 19.8 11.1 17.9</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>22.4 36.1 20.2 32.5</td>
<td></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
- Non-powered axle

**Hydraulic System:**

- Open-center
- Pressure, main relief: 2700 psi (18 620 kPa) (190 kgf/cm²)
- Pump: Gear type
- Flow @ 2200 rpm: 35 gpm (132 L/min)
- Filter, return oil: 0.1 micron, steel-enclosed replaceable element

**Tires:**

- Front: 7.50/8.00, 10 PR, F3
- Rear: 11L-15, 8 PR, F3

**Axle Ratings:**

<table>
<thead>
<tr>
<th>SAE J43</th>
<th>Static Rating</th>
<th>Dynamic Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>56,000 lb.</td>
<td>11,250 lb.</td>
</tr>
<tr>
<td>Rear</td>
<td>(25 500 kg)</td>
<td>(5100 kg)</td>
</tr>
</tbody>
</table>

**Capacities:**

- Fuel tank: 26 gal. (98 L)
- Engine coolant: 17 qt. (16 L)
- Fuel tank: 26 gal. (98 L)
- Engine oil including filter: 9 qt. (8.5 L)
- Engine oil pressure: 3.15 psi (21.4 kPa)
- Engine coolant temperature: 3.4 psi (23.3 kPa)
- Torque converter: 3.54 psi (23.3 kPa)
- Parking brake: 3.54 psi (23.3 kPa)
- Backhoe boom: 3.94 psi (27.2 kPa)
- Backhoe crowd: 3.94 psi (27.2 kPa)
- Backhoe swing: 3.94 psi (27.2 kPa)
- Backhoe extendable: 3.94 psi (27.2 kPa)
- Backhoe stabilizers: 3.54 psi (23.3 kPa)
- Steering (1) regular axle: 2.0 psi (14 kPa)
- Steering (1) MFWD: 2.0 psi (14 kPa)

**Additional Standard Equipment:**

- Air cleaner, dry type w/safety exhaust
- Filter, return oil: 10 micron, steel-enclosed replaceable element
- Engine oil pressure: 25.50 psi (175 kPa)
- Engine coolant temperature: 3.15 psi (21.4 kPa)
- Torque converter: 3.54 psi (23.3 kPa)
- Parking brake: 3.54 psi (23.3 kPa)
- Backhoe boom: 3.94 psi (27.2 kPa)
- Backhoe crowd: 3.94 psi (27.2 kPa)
- Backhoe swing: 3.94 psi (27.2 kPa)
- Backhoe extendable: 3.94 psi (27.2 kPa)
- Backhoe stabilizers: 3.54 psi (23.3 kPa)
- Steering (1) regular axle: 2.0 psi (14 kPa)
- Steering (1) MFWD: 2.0 psi (14 kPa)

**MFWD: 3.15 psi (21.4 kPa)
**

**Wheelbase:**

- 82.7 in. (2100 mm)

**Wheel Treads:**

- Front: 69 in. (1750 mm)
- Rear: 62 in. (1575 mm)
- MFWD: 70 in. (1780 mm)

**SAE Operating Weight:**

- 13,100 lb. (5940 kg)
310C BACKHOE LOADER SPECIFICATIONS AND DIMENSIONS

Drawing based on machine with 17.5L-24 tires

Key:
A. Loading height, truck loading position ........................ 10 ft. 10 in. (3.30 m)
B. Reach from center of swing mast .................. 17 ft. 6 in. (5.34 m)
C. Reach from center of rear axle .............. 20 ft. 10 in. (6.35 m)
D. Digging depth (SAE):
   (1) 2-ft. (610 mm) flat bottom 14 ft. 2 in. (4.32 m)
   (2) 8-ft. (2440 mm) flat bottom 13 ft. (3.96 m)
E. Maximum digging depth 14 ft. 3 in. (4.34 m)
F. Ground clearance, minimum 13 in. (330 mm)
G. Bucket rotation 160 or 180 degrees
H. Transport height 11 ft. 5 in. (3.48 m)
J. Overall length, transport 22 ft. 11 in. (7.01 m)
K. Stabilizer width—transport 8 ft. (2.44 m)
L. Stabilizer spread—operating 8 ft. 11 in. (2.72 m)
M. Overall width (less loader bucket) 82 in. (2080 mm)

Digging force, bucket cylinder (power dig position) 11,400 lb. (50.9 kN) (5260 kg)
Digging force, crowd cylinder 6650 lb. (29.6 kN) (3020 kg)
Swing arc 180 degrees
Operator control 2 levers
Bucket positions 12 or 21 deg. rollback
Stabilizer angle rearward 7 degrees
Lifting capacity, maximum, boom @ 85° 4000 lb. (1820 kg)
Leveling angle 11 degrees

Note: Backhoe specifications are with 24-in. (610 mm) standard bucket.
310C BACKHOE LOADER LIFTING CAPACITIES

Lifting Capacity Ratings made from bucket hinge pin, loader bucket and stabilizer 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.

Lift Capacity
Backhoe with extendable dipperstick, retracted.
Based on SAE J31.

Lift Capacity
Backhoe with extendable dipperstick, extended.
Based on SAE J31.

Rated lift capacities are in lb. (kg)
Lift capacities are hydraulically limited.
310C BACKHOE LOADER

LOADERS:
Operator control: Single lever
Breakout force: 8700 lb. (38.7 kN) (3946 kg)
Lifting capacity, full height: 5600 lb. (2540 kg)
Raising time to full height: 3.3 sec.
Bucket dump time: 1.1 sec.
Bucket lowering time (power down): 2.3 sec.

BUCKETS

<table>
<thead>
<tr>
<th>Loader:</th>
<th>Width (mm)</th>
<th>Heaped Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>General purpose</td>
<td>92 (2340)</td>
<td>1.0 (.76)</td>
</tr>
<tr>
<td>Long lip</td>
<td>89.4 (2270)</td>
<td>1.25 (.96)</td>
</tr>
<tr>
<td><strong>STANDARD</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DUTY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard-duty:</td>
<td>12 (305)</td>
<td>3.0 (.08)</td>
</tr>
<tr>
<td></td>
<td>16 (406)</td>
<td>4.5 (.13)</td>
</tr>
<tr>
<td></td>
<td>18 (457)</td>
<td>5.1 (.14)</td>
</tr>
<tr>
<td></td>
<td>24 (610)</td>
<td>7.5 (.21)</td>
</tr>
<tr>
<td></td>
<td>24 (610)</td>
<td>8.8 (.29)</td>
</tr>
<tr>
<td></td>
<td>30 (762)</td>
<td>10.0 (.28)</td>
</tr>
<tr>
<td></td>
<td>36 (914)</td>
<td>10.0 (.28)</td>
</tr>
<tr>
<td>Heavy-duty:</td>
<td>18 (457)</td>
<td>5.1 (.14)</td>
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<td></td>
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<td>10.0 (.28)</td>
</tr>
<tr>
<td></td>
<td>36 (914)</td>
<td>10.0 (.28)</td>
</tr>
</tbody>
</table>

Additional Available Equipment:
- Auxiliary bolt-on cutting edge for loader buckets
- Backhoe lift eye
- Bolt-on teeth for loader bucket
- Cab pressurizer
- Deluxe heater w/fresh air intake—40,000 Btu/hr (11.7 kW)
- Air conditioner, 24,000 Btu/hr (7.0 kW)
- 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
- MFWD driveshaft guard
- Multipurpose loader buckets
- Radio or radio cassette
- Special paint
- 3-point hitch and hydraulics

Optional or Special Equipment:
- Altitude-compensating engine turbocharger
- Automatic loader return-to-dig
- Auxiliary hydraulic valves and circuit for loader and backhoe
- Backup alarm
- Cab with:
  - 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)
- Cab, quarter (front windshield and door)
- Cold-weather starting aid, remote mounted
- Counterweight, front, 850 lb. (385 kg)
- Counterweight, front, 415 lb. (188 kg)
- Deluxe cab interior trim package
- Economy seat, vinyl covered, suspension or rigid mounted
- Engine coolant heater
- Extendable dipperstick for backhoe
- Fire extinguisher
- Floor mat
- Heavy-duty batteries
- Horn
- Instrument panel vandal cover
- Lights:
  - Front rear turn signal lights
  - Rear brake lights
  - Rear halogen work lights
  - Rotating beacon light
- Mechanical front-wheel drive
- Rear defroster fan
- Rearview mirror, inside mounted, curved, heavy-duty
- Rear wheel spacers for tire chain clearance
- Reversible stabilizer pads
- Tachometer/hourmeter
- SMV emblem
- 3-in. (76 mm) seat belt
- Three- or four-lever, pedal-swing backhoe controls
- Toolbox
- Without loader return-to-dig

* See your John Deere dealer for further information.