

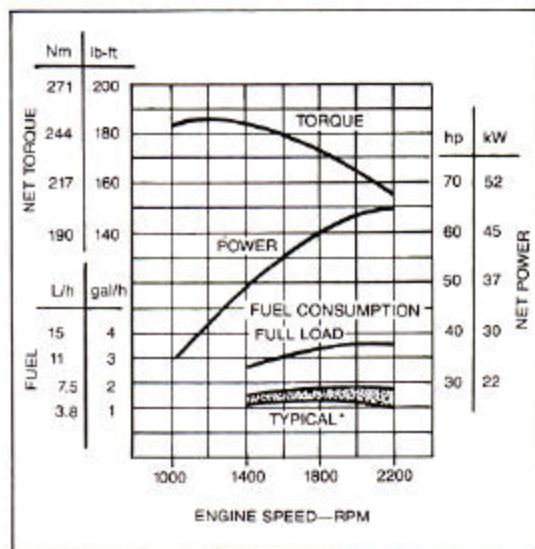


310C BACKHOE LOADER



Model shown may include options

ENGINE PERFORMANCE



*Depending on operating variables

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

- 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

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310C BACKHOE LOADER SPECIFICATIONS

Specifications and design are 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, 8 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 lb. (80 kg) operator.

| Rated Power @ 2200 rpm: | SAE | DIN 70 020 |
|-------------------------|-----------------|------------|
| Net | 65 hp (48.5 kW) | 49.5 kW |
| Gross | 69 hp (51.5 kW) | |

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 ACT*, 10,000 feet (3050 m) altitude. Gross power is without cooling fan.

*Altitude compensating turbocharger

Engine: John Deere 4-239D

| | |
|-------------------------------|---|
| 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. (3.917 L) |
| Maximum net torque @ 1200 rpm | 186 lb-ft (252 Nm) (25.7 kg-m) |
| | 20 percent torque rise |
| Cooling fan | Suction |
| Compression ratio | 17.8 to 1 |
| Lubrication | Pressure system w/full-flow filter and cooler |
| Main bearings | 5 |
| Air cleaner | Dry |
| Electrical system | 12 volt |
| Alternator | 65 amps |

Torque Converter:

Single stage, dual phase, overrunning stator, 11-in. (280 mm) diameter, stall torque ratio 2.83:1.

Reverser:

Modulated, full-power shift with multiple wet-disk clutches. Reverser operating lever at left of steering wheel.

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: | Gear | Forward | | Reverse | |
|---|------|---------|--------|---------|--------|
| | | mph | (km/h) | mph | (km/h) |
| With standard 17.5L-24 rear and 11L-15 front tires | 1 | 3.3 | 5.3 | 3.0 | 4.8 |
| | 2 | 5.7 | 9.2 | 5.1 | 8.2 |
| | 3 | 12.3 | 19.8 | 11.1 | 17.9 |
| | 4 | 22.4 | 36.1 | 20.2 | 32.5 |
| With MFWD and 19.5L-24 (required) rear and 12.00-16.5 front tires | 1 | 3.4 | 5.5 | 3.1 | 5.0 |
| | 2 | 5.9 | 9.5 | 5.3 | 8.5 |
| | 3 | 12.6 | 20.3 | 11.3 | 18.2 |
| | 4 | 23.0 | 37.0 | 20.7 | 33.3 |

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) | 9 ft. 7 in. (2.92 m) |
| Clearance circle (brake applied) | 28 ft. 10 in. (8.79 m) |
| Steering wheel turns, left to right | 2.2 |
| right to left | 2.9 |
| Axle oscillation stop to stop | 22 deg. |
| Mechanical front-wheel drive (engaged): | |
| Turning radius (brake applied) | 10 ft. 3 in. (3.12 m) |
| Clearance circle (brake applied) | 29 ft. 3 in. (8.92 m) |
| Steering wheel turns, left to right | 2.5 |
| right to left | 2.5 |
| Axle oscillation stop to stop | 22 deg. |

Hydraulic System: Open-center

| | |
|-----------------------|---|
| Pressure, main relief | 2700 psi (18 620 kPa) (190 kg/cm ²) |
| Pump | Gear type |
| Flow @ 2200 rpm | 34 gpm (129 L/min) |
| Filter, return oil | 10 micron, steel-enclosed replaceable element |

| Hydraulic Cylinders: | Bore | | Stroke | | Rod | |
|-------------------------------|------|------|--------|------|------|------|
| | In. | (mm) | In. | (mm) | In. | (mm) |
| Loader boom (2) | 3.15 | 80 | 29.8 | 757 | 1.77 | 45 |
| Loader bucket (1) | 3.54 | 90 | 28.2 | 716 | 1.77 | 45 |
| Backhoe boom (1) | 4.53 | 115 | 34.8 | 883 | 2.20 | 56 |
| Backhoe crowd (1) | 3.94 | 100 | 32.2 | 819 | 2.20 | 56 |
| Backhoe bucket (1) | 3.54 | 90 | 31.0 | 788 | 1.97 | 50 |
| Backhoe swing (2) | 3.94 | 100 | 10.9 | 278 | 1.97 | 50 |
| Backhoe extendable dipper (1) | 2.5 | 64 | 48.0 | 1220 | 1.25 | 32 |
| Backhoe stabilizers (2) | 3.54 | 90 | 16.9 | 431 | 1.77 | 45 |
| Steering (1) regular axle | 2.0 | 51 | 9.5 | 241 | 1.0 | 25 |
| Steering (1) MFWD | 2.36 | 60 | 7.9 | 202 | 1.0 | 25 |

| Tires: | Front | | Rear | |
|--------|----------------------|------------------|-------------------|---------------------|
| | 7.50/8.00, 10 PR, F3 | 11L-15, 8 PR, F3 | 16.9-24, 6 PR, R3 | 16.9-24, 6 PR, R4 |
| | | | 16.9-24, 8 PR, R4 | 17.5L-24, 10 PR, R4 |
| MFWD | 12.00-16.5, 8 PR, R4 | | | |

Wheel Treads:

| | |
|------------|------------------|
| Front | 69 in. (1750 mm) |
| Rear | 62 in. (1575 mm) |
| MFWD—Front | 68 in. (1730 mm) |
| —Rear | 69 in. (1750 mm) |

Wheelbase 82.7 in. (2100 mm)

| Axle Ratings: | Static Rating | Dynamic Rating | SAE J43 |
|---------------|------------------------|------------------------|----------------------|
| Front | 56,000 lb. (25 500 kg) | 56,000 lb. (25 500 kg) | 11,200 lb. (5080 kg) |
| Rear | 43,500 lb. (19 800 kg) | 58,000 lb. (26 400 kg) | 13,400 lb. (6080 kg) |

Capacities:

| | U.S. | Liters |
|--------------------------------------|---------|--------|
| Fuel tank | 26 gal. | 98 |
| Engine coolant | 17 qt. | 16 |
| Engine oil including filter | 9 qt. | 8.5 |
| Torque converter and reverser system | 8 qt. | 7 |
| Hydraulic system | 21 gal. | 79 |
| Transaxle; w/o MFWD | 5 gal. | 19 |
| w/MFWD | 6 gal. | 23 |

Additional Standard Equipment:

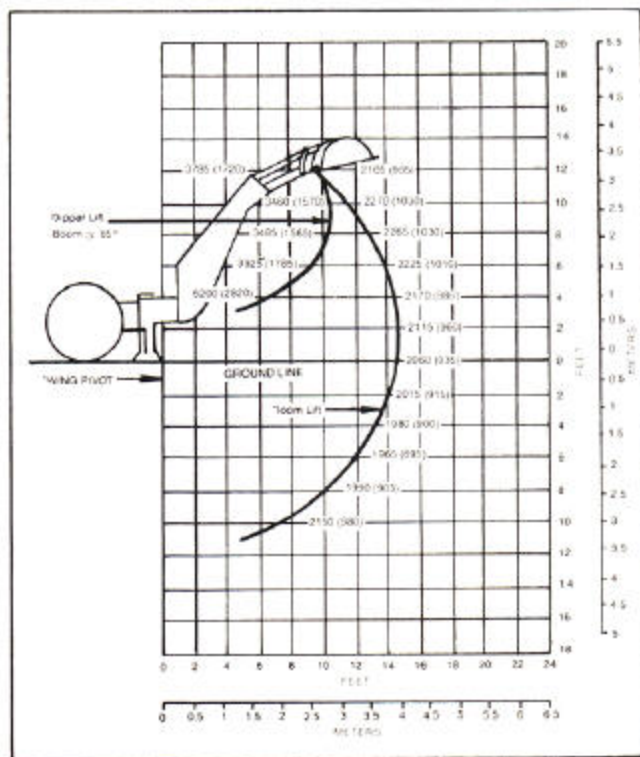
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|---|---|
| Air cleaner restriction indicator | Muffler, under hood w/vertical exhaust |
| Air cleaner, dry type w/safety element and precleaner | Multiple fuse protected electrical system—12 volt |
| Alternator, w/transistorized voltage regulator | Oil-to-air cooler for hydraulic system |
| Antifreeze to -34° (-37°C) | Oil-to-air cooler for reverser/torque converter system |
| Backhoe boom transport lock | Rear fenders |
| Battery, 110-minute reserve capacity | Rear reflectors |
| Differential lock | ROPS/FOPS canopy, isolation mounted, with roof and seat belt |
| Electric fuel shutoff | Steps and handholds |
| Emergency/parking brake | Swivel seat, fully adjustable |
| Engine side shields | Torque converter |
| Foot and hand throttles | Vandal protection w/built-in locks for engine access door and fuel tank cap |
| Front counterweight, 400 lb. (181 kg) | |
| Fuel gauge | |
| Fuel tank sump w/easy access drain | |
| Hourmeter | |
| Hydraulic self-leveling loader | |
| Hydrostatic power steering | |
| Key start switch | |
| Lights: | |
| Halogen driving/working lights | |
| Taillight | |
| Loader bucket level indicator | |
| Monitor for: | |
| Alternator | |
| Engine coolant temperature | |
| Engine oil pressure | |
| Hydraulic filter | |
| Parking brake | |
| Torque converter temperature | |

SAE Operating Weight 13,100 lb. (5940 kg)

310C BACKHOE LOADER LIFTING CAPACITIES

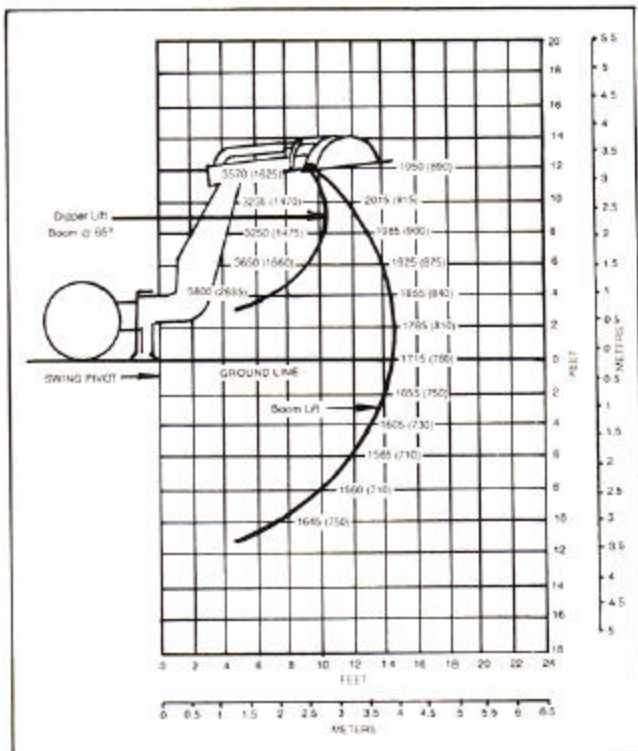
Lifting Capacity Ratings made with bucket hinge pin, loader bucket and stabilizer on firm, level ground. Lifting capacities are 87 percent of the maximum lift over any point on the swing arc and do not exceed 75 percent of the tipping load. Angle between boom and ground at 63 degrees. Machine equipped 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.



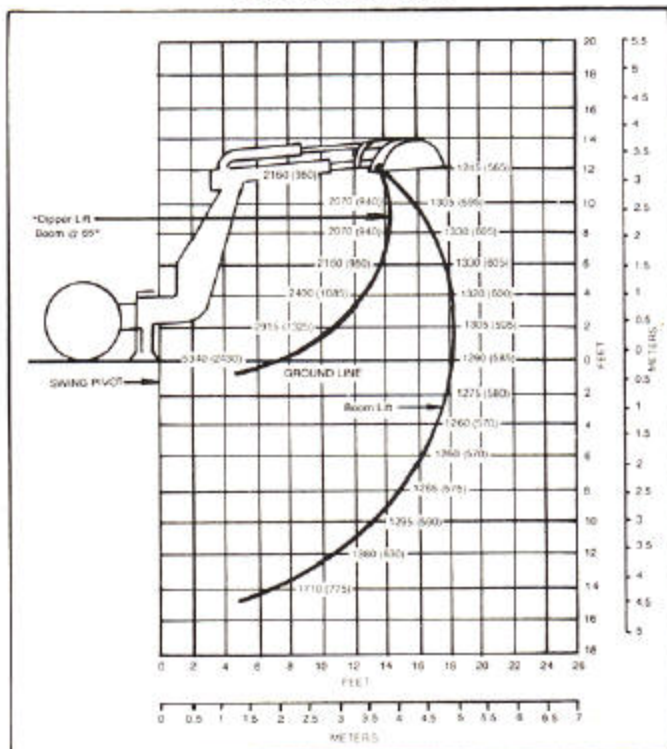
Rated lift capacities are in lb. (kg)
Lift capacities are hydraulically limited.

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



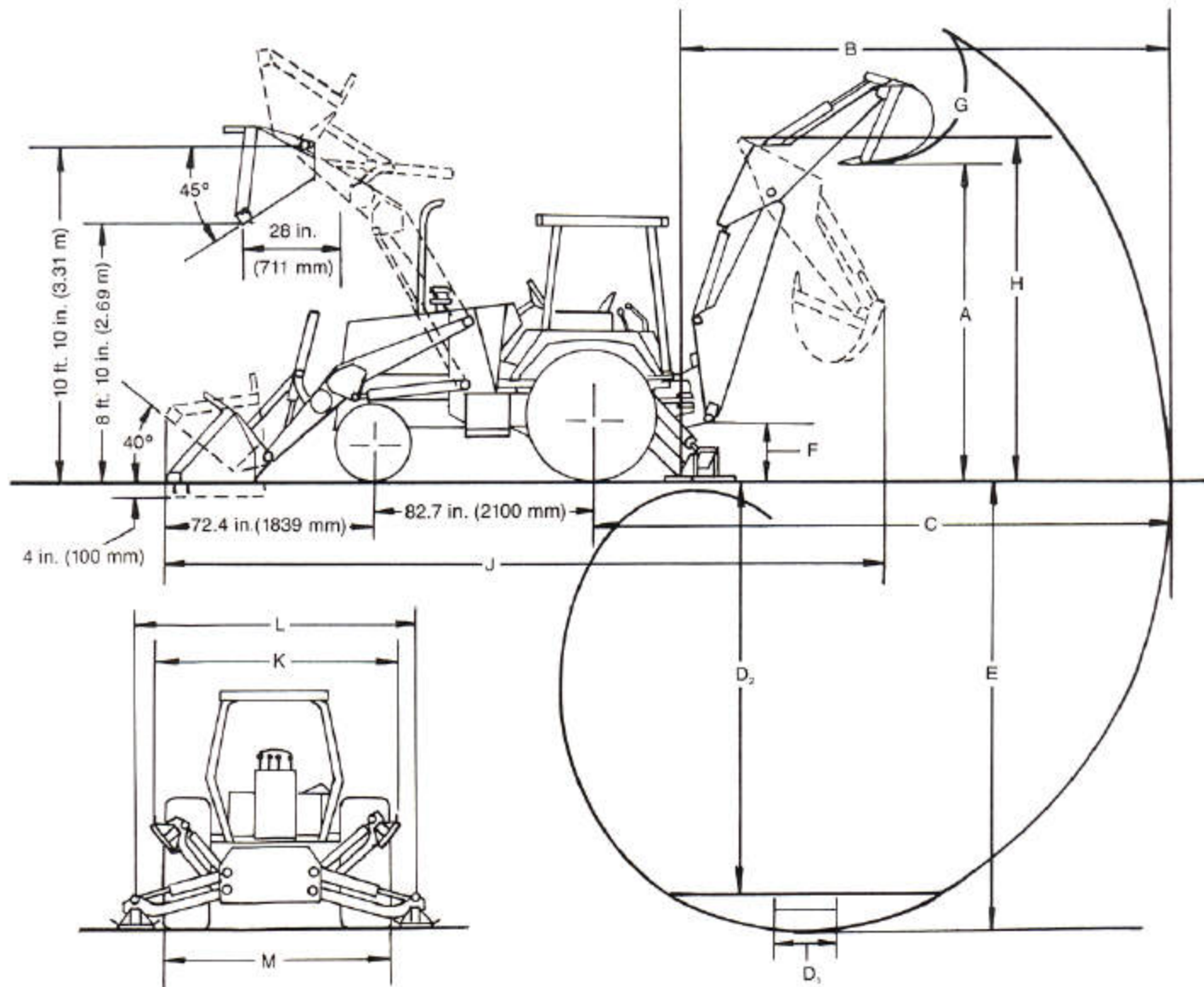
Rated lift capacities are in lb. (kg)
Lift capacities are hydraulically limited.

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 SPECIFICATIONS AND DIMENSIONS



Key:

| | Backhoe |
|---|------------------------|
| 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) |

Extendable Dipperstick

| | Retracted | Extended |
|---|--------------------------------|--------------------------------|
| A. Loading height, truck loading position | 11 ft. 1 in. (3.38 m) | 13 ft. 1 in. (3.99 m) |
| B. Reach from center of swing mast | 17 ft. 7 in. (5.36 m) | 21 ft. 1 in. (6.43 m) |
| C. Reach from center of rear axle | 20 ft. 10 in. (6.35 m) | 24 ft. 5 in. (7.44 m) |
| D. Digging depth (SAE): | | |
| (1) 2-ft. (610 mm) flat bottom | 14 ft. 2 in. (4.34 m) | 18 ft. (5.49 m) |
| (2) 8-ft. (2440 mm) flat bottom | 13 ft. (3.96 m) | 17 ft. 1 in. (5.21 m) |
| E. Maximum digging depth | 14 ft. 3 in. (4.34 m) | 18 ft. 2 in. (5.58 m) |
| F. Ground clearance, minimum | 13 in. (330 mm) | 13 in. (330 mm) |
| G. Bucket rotation | 160 or 180 degrees | 160 or 180 degrees |
| H. Transport height | 11 ft. 7 in. (3.53 m) | 11 ft. 7 in. (3.53 m) |
| J. Overall length, transport | 22 ft. 11 in. (7.01 m) | 22 ft. 11 in. (7.01 m) |
| K. Stabilizer width—transport | 8 ft. (2.44 m) | 8 ft. (2.44 m) |
| L. Stabilizer spread—operating | 8 ft. 11 in. (2.72 m) | 8 ft. 11 in. (2.72 m) |
| M. Overall width (less loader bucket) | 82 in. (2080 m) | 82 in. (2080 m) |
| Digging force, bucket cylinder (power dig position) | 11,400 lb. (50.9 kN) (5200 kg) | 11,400 lb. (50.9 kN) (5200 kg) |
| Digging force, crowd cylinder | 6650 lb. (29.6 kN) (3020 kg) | 4540 lb. (20.2 kN) (2060 kg) |
| Swing arc | 180 degrees | 180 degrees |
| Operator control | Two levers | Right foot treadle |
| Bucket positions | 12 or 21 deg. rollback | 12 or 22 deg. rollback |
| Stabilizer angle rearward | 7 degrees | 7 degrees |
| Lifting capacity, maximum, boom @ 65° | 4000 lb. (1820 kg) | 2400 lb. (1090 kg) |
| Leveling angle | 11 degrees | 11 degrees |

Note: Backhoe specifications are with 24-in. (610 mm) standard bucket.

310C BACKHOE LOADER

LOADER:

| | |
|---|------------------------------|
| 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

| Loader: | Width | | Heaped Capacity | | |
|-----------------|--------------------------------|--------|-----------------|-------------------|--------|
| | In. | (mm) | Cu. Yd. | (m ³) | |
| General purpose | 92 | (2340) | 1.0 | (0.76) | |
| | 92 | (2340) | 1.3 | (1.00) | |
| Long lip | 89.4 | (2270) | 1.25 | (0.96) | |
| Backhoe: | Cu. Ft. (m³) | | | | |
| | Standard-duty | 12 | (305) | 3.0 | (0.08) |
| | | 16 | (406) | 4.5 | (0.13) |
| | | 18 | (457) | 5.1 | (0.14) |
| | | 24 | (610) | 7.5 | (0.21) |
| | | 24 | (610) | 8.8 | (0.25) |
| | 30 | (762) | 10.0 | (0.28) | |
| | 36 | (914) | 10.0 | (0.28) | |
| | 36 | (914) | 14.5 | (0.41) | |
| | Heavy-duty | 18 | (457) | 5.1 | (0.14) |
| 24 | | (610) | 7.5 | (0.21) | |
| 30 | | (762) | 10.0 | (0.28) | |
| 36 | | (914) | 10.0 | (0.28) | |
| 36 | (914) | 14.5 | (0.41) | | |

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/hr (5.6 kW)
 Cold-weather starting aid, remote mounted
 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

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 counterweight, extra (side mounted)
 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

*See your John Deere dealer for further information