

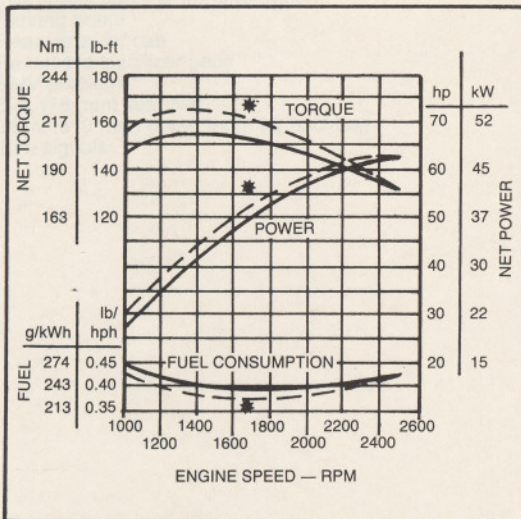


# 410B BACKHOE LOADER



Model shown may include options

## ENGINE PERFORMANCE



\* With optional turbocharger

## 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



## 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 m<sup>3</sup>) loader bucket; 24-in. (610 mm) standard duty backhoe bucket, ROPS/FOPS, full fuel tank and 175-lb. (79 kg) operator.)

Rated Power @2500 rpm:	SAE	DIN 70 020
Net	62 hp (46.2 kW)	49 kW
Gross	66 hp (49.2 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 4-219D

Type	4-stroke cycle, naturally aspirated diesel
Bore and stroke	4.02 x 4.33 in. (102 x 110 mm)
No. of cylinders	4
Displacement	219 cu. in. (3.589 L)
Maximum net torque @1300 rpm	156 lb-ft (212 Nm) (21.6 kg-m)
	20 percent torque rise
(W/ACT)	163 lb-ft (221 Nm) (22.5 kg-m)
	25 percent torque rise
Cooling fan	Suction
Compression ratio	16.2 to 1
Lubrication	Pressure system w/full-flow filter and cooler
Main bearings	5
Air cleaner	Dry
Electrical system	12 volt
Alternator	51 amps w/cab, 35 amps regular

### Torque Converter:

Single stage, dual phase, overrunning stator, 11-in. (280 mm) diameter, stall torque ratio 2.78:1.

### 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	3.1	5.0	3.6	5.8
	2	5.3	8.5	6.2	10.0
	3	11.4	18.3	13.2	21.2
With MFWD and 19.5L-24 (required) rear and 12.00-16.5 front tires	4	20.8	33.5	24.1	38.8
	1	3.3	5.3	3.9	6.3
	2	5.7	9.2	6.6	10.6
	3	12.2	19.6	14.2	22.8
	4	22.3	35.9	25.9	41.7

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)	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	4.2
Axle oscillation stop to stop	22 deg.

### Hydraulic System: Closed-center (variable flow, constant pressure)

Pressure	2500 psi (17 238 kPa) (175.8 kg/cm <sup>2</sup> )
Pump	8 radial pistons, variable flow
Flow @2200 psi (15 170 kPa) (154.7 kg/cm <sup>2</sup> )	30 gpm (1.89 L/s)
Filter, return oil	10 micron, steel-enclosed replaceable element
Screen, pressure oil	50/in. (20/cm) mesh

Hydraulic Cylinders:	Bore	Stroke	Rod
Loader boom (2)	3.25 in. (83 mm)	30.0 in. (762 mm)	1.75 in. (45 mm)
Loader bucket (1)	3.5 in. (89 mm)	24.4 in. (620 mm)	1.75 in. (45 mm)
Backhoe boom (1)	4.5 in. (114 mm)	38.5 in. (980 mm)	2.25 in. (57 mm)
Backhoe crowd (1)	4.0 in. (102 mm)	33.0 in. (840 mm)	2.0 in. (51 mm)
Backhoe bucket (1)	3.5 in. (89 mm)	27.4 in. (695 mm)	2.25 in. (57 mm)
Backhoe swing (2)	4.0 in. (102 mm)	9.5 in. (241 mm)	2.0 in. (51 mm)
Backhoe extendable dipper (1)	2.5 in. (64 mm)	48 in. (1220 mm)	1.25 in. (32 mm)
Backhoe stabilizers (2)	4.0 in. (102 mm)	20.3 in. (515 mm)	2.0 in. (51 mm)
Steering (1) regular axle	2.0 in. (51 mm)	9.5 in. (241 mm)	1.0 in. (25.5 mm)
Steering (1) MFWD	2.0 in. (51 mm)	12.6 in. (320 mm)	1.0 in. (25 mm)

Tires:	Front	Rear
	12.5L-15, 8 PR, I1	16.9-24, 8 PR, R4
	11L-15, 10 PR, F3	17.5L-24, 10 PR, R4
	11L-16, 12 PR, F3	19.5L-24, 10 PR, R4
MFWD	12.00-16.5, 8 PR, R4	19.5L-24, 10 PR, R4

### Wheel Treads:

Front	69 in. (1750 mm)
Rear	64 in. (1625 mm)
MFWD — Front	68 in. (1727 mm)
— Rear	66 in. (1675 mm)

Wheelbase	82.7 in. (2100 mm)
MFWD	83.3 in. (2116 mm)

Axle Ratings:	Static Rating	Dynamic Rating	SAE J43
Front	56,000 lb. (25 450 kg)	56,000 lb. (25 450 kg)	9,000 lb. (4080 kg)
Rear	51,000 lb. (23 180 kg)	68,000 lb. (30 900 kg)	2,530 lb. (5680 kg)

Capacities:	U.S.	Liters
Fuel tank	23 gal.	87
Engine coolant	17 qt.	16
Engine oil including filter	9 qt.	8.5
Torque converter and reverser system	14 qt.	13
Transaxle and hydraulic system	19 gal.	72

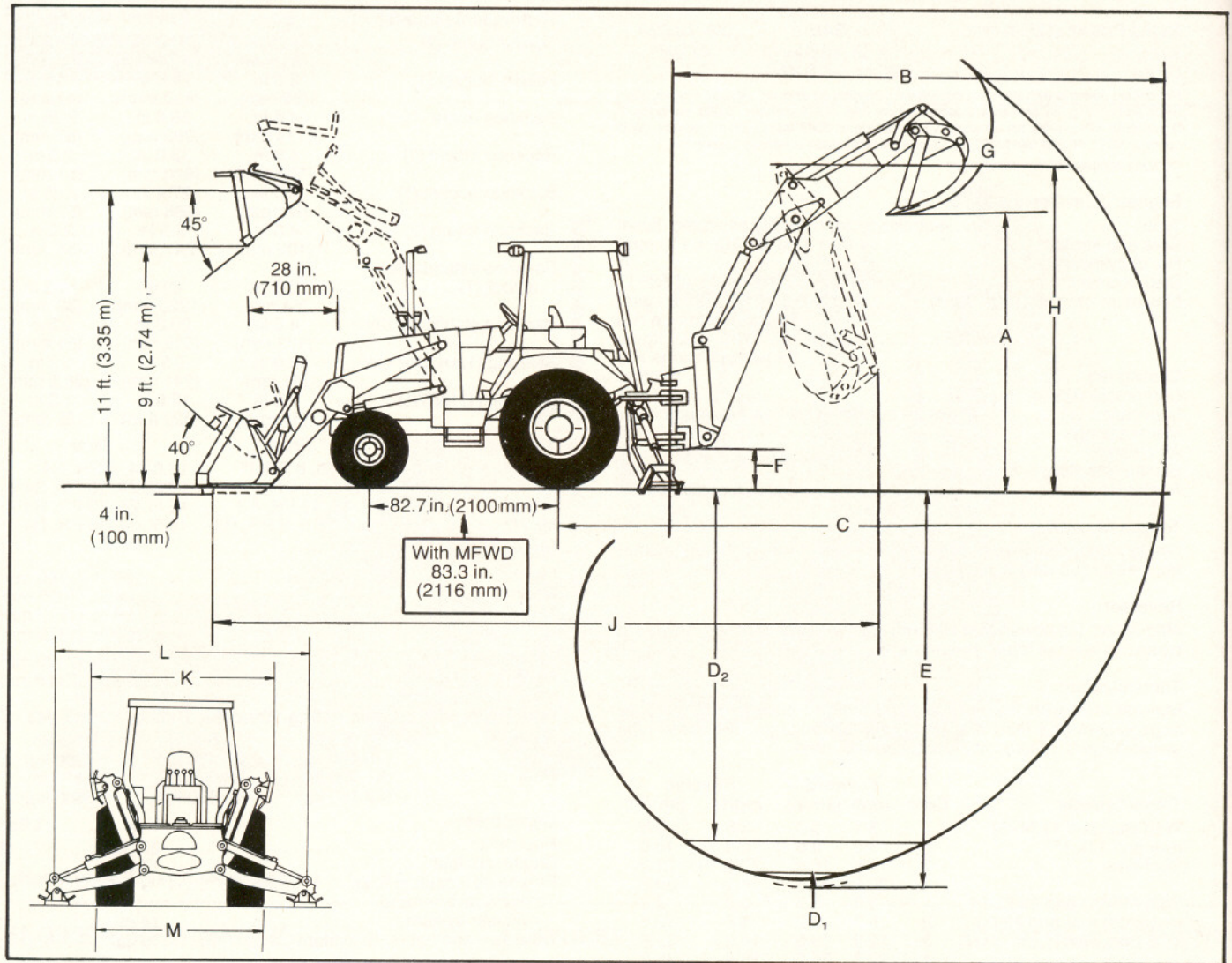
### Additional Standard Equipment:

Air precleaner	Lights:
Air cleaner, dry type w/safety element	Halogen driving lights
Alternator, 35 amp w/transistorized voltage regulator	Halogen work lights
Antifreeze to -34°F (-37°C)	Turn signal lights
Backhoe transport lock	Tail and brake lights
Cast-in-counterweight front axle	Flashing hazard lights
Differential lock, foot-engaged collar	Loader bucket automatic hydraulic self-leveling
Electric automatic destroke for hydraulic pump	Loader bucket level indicator
Electric combination tachometer/hourmeter	Muffler, underhood w/vertical exhaust
Electric shutoff on diesel injection pump	Multiple-fuse protected electrical system
Emergency/parking brake	Oil-to-air cooler for hydraulic system and transaxle
Engine sideshields w/built-in locks	Oil-to-air cooler for torque converter and reverser
Foot and hand throttles	Operator's platform floor mat
Fuel tank contaminant sump w/easy access drain	Operator's canopy or cab headliner
Gauges for:	Pushbutton start switch
Engine coolant temperature	Rear fenders
Fuel tank level	Rear reflectors
Hydraulic/transmission oil temperature	Restriction indicator for engine air cleaner
Horn	ROPS/FOPS with roof and seat belt
Hydraulic lockouts for stabilizer — raise and lower	Steps and handholds
Indicator lights:	Tinted tempered safety glass windows
Alternator	
Engine oil pressure	
Parking brake	
Turn signals	

SAE Operating Weight ..... 14,400 lb. (6545 kg)



# 410B BACKHOE LOADER SPECIFICATIONS AND DIMENSIONS



**Key:**

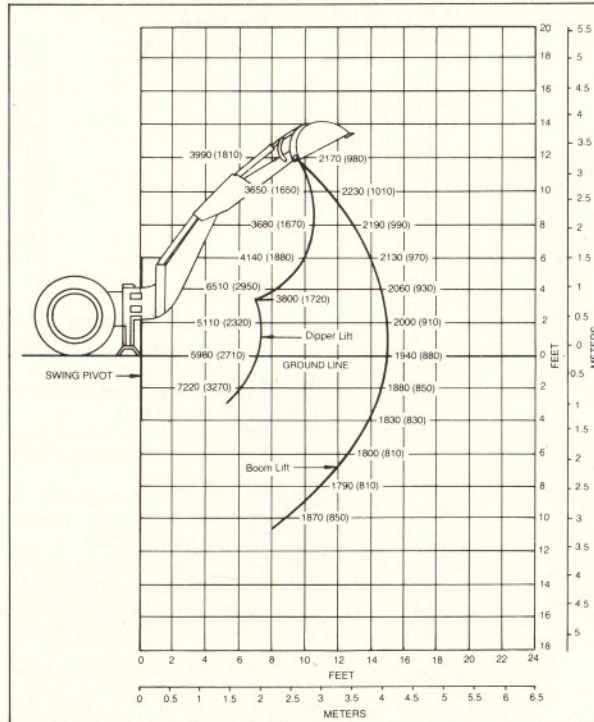
	Backhoe	Extendable Dipperstick Retracted	Extended
A. Loading height, truck loading position	11 ft. 9 in. (3.59 m)	10 ft. 5 in. (3.17 m)	12 ft. 10 in. (3.91 m)
B. Reach from center of swing mast	17 ft. 7 in. (5.36 m)	17 ft. 9 in. (5.41 m)	21 ft. 7 in. (6.58 m)
C. Reach from center of rear axle	21 ft. 5 in. (6.53 m)	21 ft. 7 in. (6.58 m)	25 ft. 5 in. (7.75 m)
D. Digging depth (SAE):			
(1) 2-ft. (610 mm) flat bottom	14 ft. 5 in. (4.40 m)	14 ft. 7 in. (4.44 m)	18 ft. 6 in. (5.64 m)
(2) 8-ft. (2440 mm) flat bottom	13 ft. 3 in. (4.04 m)	13 ft. 6 in. (4.12 m)	17 ft. 4 in. (5.28 m)
E. Maximum digging depth	14 ft. 6 in. (4.42 m)	14 ft. 7 in. (4.44 m)	18 ft. 6 in. (5.64 m)
F. Ground clearance, minimum	12 in. (305 mm)	12 in. (305 mm)	12 in. (305 mm)
G. Bucket rotation	123, 127/155 degrees	123, 127/155 degrees	123, 127/155 degrees
H. Transport height	11 ft. 5 in. (3.48 m)	11 ft. 5 in. (3.48 m)	11 ft. 5 in. (3.48 m)
J. Overall length, transport	23 ft. (7.01 m)	23 ft. (7.01 m)	23 ft. (7.01 m)
K. Stabilizer width—transport	7 ft. 8 in. (2.34 m)	7 ft. 8 in. (2.34 m)	7 ft. 8 in. (2.34 m)
L. Stabilizer spread—operating	9 ft. 10 in. (3 m)	9 ft. 10 in. (3 m)	9 ft. 10 in. (3 m)
M. Overall width (less loader bucket)	80.7 in. (2050 mm)	80.7 in. (2050 mm)	80.7 in. (2050 mm)
Digging force, bucket cylinder (power dig position)	10,200 lb. (45.4 kN) (4625 kg)	10,200 lb. (45.4 kN) (4625 kg)	10,200 lb. (45.4 kN) (4625 kg)
Digging force, crowd cylinder	6600 lb. (29.4 kN) (2995 kg)	6360 lb. (28.3 kN) (2880 kg)	4360 lb. (19.4 kN) (1980 kg)
Swing arc	180 degrees	180 degrees	180 degrees
Operator control	Two levers	Right foot treadle	Right foot treadle
Bucket positions	12 or 20 deg. rollback/ 6 deg. forward	12 or 20 deg. rollback/ 6 deg. forward	12 or 20 deg. rollback/ 6 deg. forward
Stabilizer angle rearward	13 degrees	13 degrees	13 degrees
Lifting capacity, maximum boom @65°	4200 lb. (1920 kg)	4050 lb. (1840 kg)	2440 lb. (1110 kg)



## 410B BACKHOE LOADER LIFTING CAPACITIES

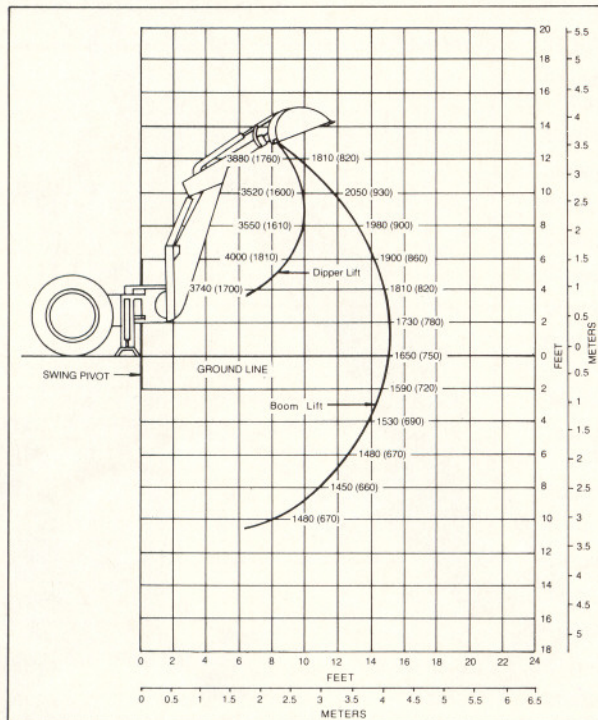
Lifting Capacities: Ratings made from bucket hinge pin, loader bucket and stabilizers on firm, level ground. Lifting capacities are 87 percent of the maximum lift over any point on the swing arc and do not exceed 75 percent of the tipping load. Angle between boom and ground at 65 degrees. Machine equipped 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\*).



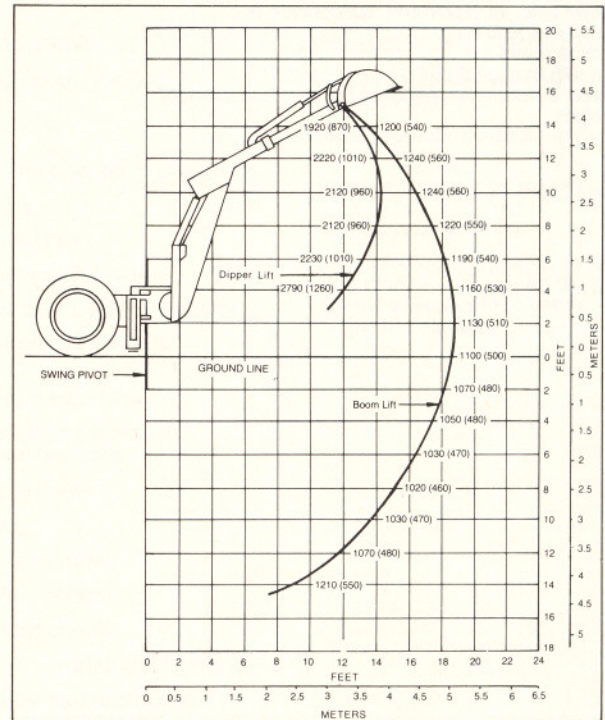
Rated lift capacities are in lb. (kg)  
 Lift capacities are hydraulically limited.

**Lift Capacity**  
**Backhoe with extendable dipperstick, retracted.**  
 Based on SAE J31 (except w/loader bucket on ground\*).



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

**Lift Capacity**  
**Backhoe with extendable dipperstick, extended.**  
 Based on SAE J31 (except w/loader bucket on ground\*).



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

\*Loader 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

### LOADER:

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  
Backup alarm  
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  
Heavy-duty batteries  
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

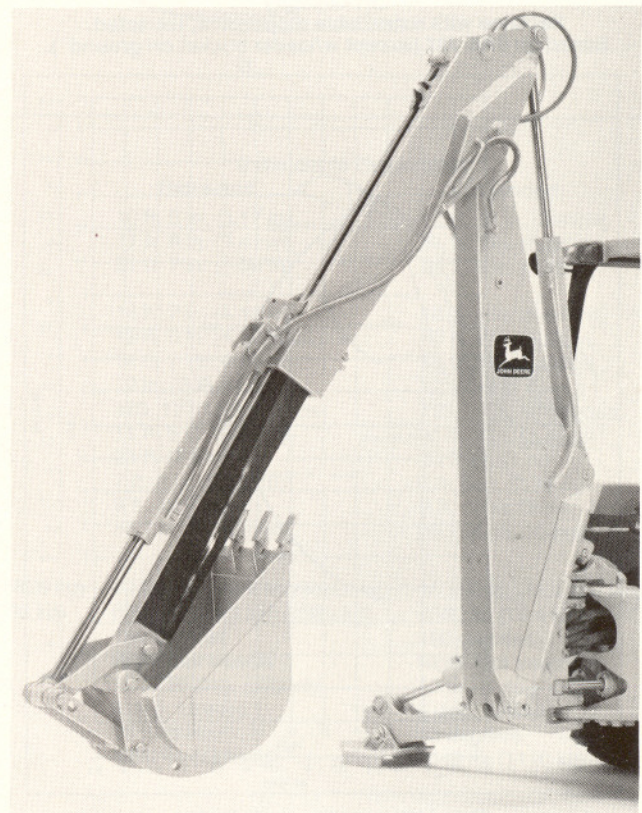
Loader:	Width		Struck Capacity		Heaped Capacity		
	In.	(mm)	Cu. Ft.	(m <sup>3</sup> )	Cu. Yd.	(m <sup>3</sup> )	
General purpose	92	(2340)			1.0	(0.76)	
	92	(2340)			1.25	(1.00)	
Long lip	89.4	(2270)			1.25	(1.00)	
<b>Backhoe:</b> Standard-duty	12	(305)	2.6	(0.07)	3.0	(0.08)	
	16	(406)	3.7	(0.10)	4.5	(0.13)	
	18	(457)	4.2	(0.12)	5.1	(0.14)	
	24	(610)	5.9	(0.17)	7.5	(0.21)	
	24	(610)	7.2	(0.20)	8.8	(0.25)	
	30	(762)	7.5	(0.21)	10.0	(0.28)	
	36	(914)	7.5	(0.21)	10.0	(0.28)	
	36	(914)	11.2	(0.32)	14.5	(0.41)	
	Heavy-duty	18	(457)	4.2	(0.12)	5.1	(0.14)
		24	(610)	5.9	(0.17)	7.5	(0.21)
30		(762)	7.5	(0.21)	10.0	(0.28)	
Ejector	24	(610)	4.6	(0.13)	5.7	(0.16)	

### 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 m<sup>3</sup>) bucket  
Radio or radio cassette

\* See your John Deere dealer for further information.

### Extendable Dipperstick



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