

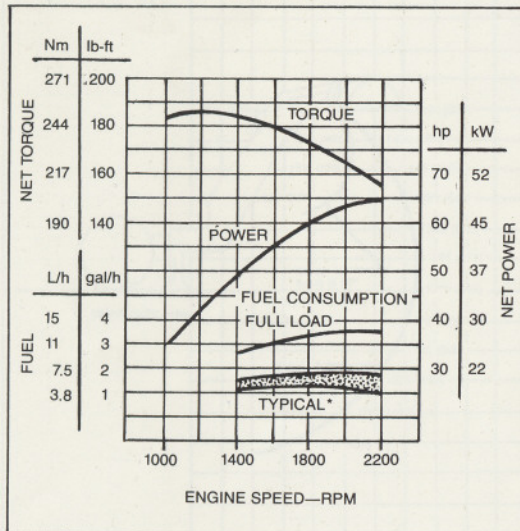


310C BACKHOE LOADER



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

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 17.5L-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 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. (3.917 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

Non-powered axle	
Curb turning radius—w/brakes	11 ft. 9 in. (3.57 m)
w/o brakes	13 ft. 3 in. (4.04 m)
Bucket clearance circle—w/brakes	31 ft. 6 in. (9.61 m)
w/o brakes	34 ft. 7 in. (10.55 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	
Curb turning radius—w/brakes	10 ft. 11 in. (3.34 m)
w/o brakes	13 ft. 8 in. (4.17 m)
Bucket clearance circle—w/brakes	29 ft. 9 in. (9.07 m)
w/o brakes	35 ft. 3 in. (10.74 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	35 gpm (132 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
	11L-16, 12 PR, F3	16.9-24, 8 PR, R4
		17.5L-24, 10 PR, R4
MFWD	12.00-16.5, 8 PR, lug tread	19.5L-24, 8 PR, R4

Wheel Treads:

Front	69 in. (1750 mm)
Rear	62 in. (1575 mm)
MFWD—Front	69 in. (1750 mm)
—Rear	70 in. (1780 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)	11,250 lb. (5100 kg)
Rear	43,500 lb. (19 800 kg)	58,000 lb. (26 400 kg)	13,300 lb. (6030 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

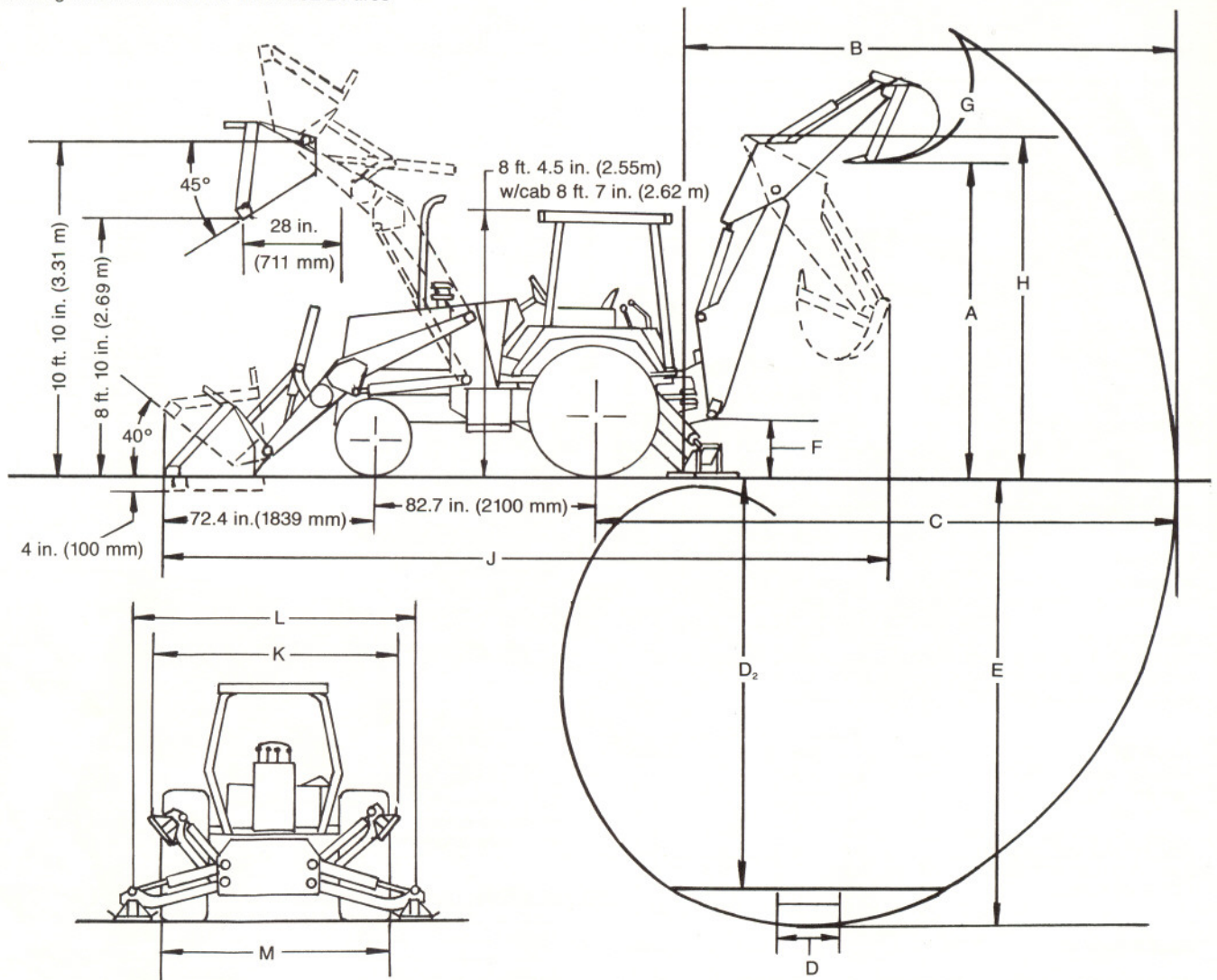
Additional Standard Equipment:

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 SPECIFICATIONS AND DIMENSIONS

Drawing based on machine with 17.5L-24 tires



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

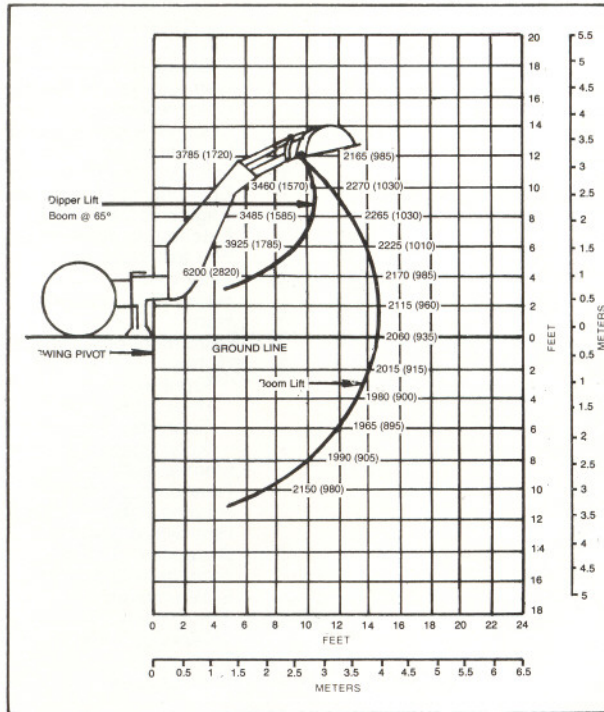
	Retracted	Extended
A. Loading height, truck loading position	11 ft. 1 in. (3.38 m)	13 ft. 1 in. (3.99 m)
B. Reach from center of swing mast	17 ft. 7 in. (5.36 m)	21 ft. 1 in. (6.43 m)
C. Reach from center of rear axle	20 ft. 10 in. (6.35 m)	24 ft. 5 in. (7.44 m)
D. Digging depth (SAE):		
(1) 2-ft. (610 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 mm)	82 in. (2080 mm)
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	8 or 17 deg. rollback
Stabilizer angle rearward	7 degrees	7 degrees
Lifting capacity, maximum, boom @ 65°	4000 lb. (1820 kg)	3700 lb. (1680 kg)
Leveling angle	11 degrees	11 degrees

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

310C BACKHOE LOADER LIFTING CAPACITIES

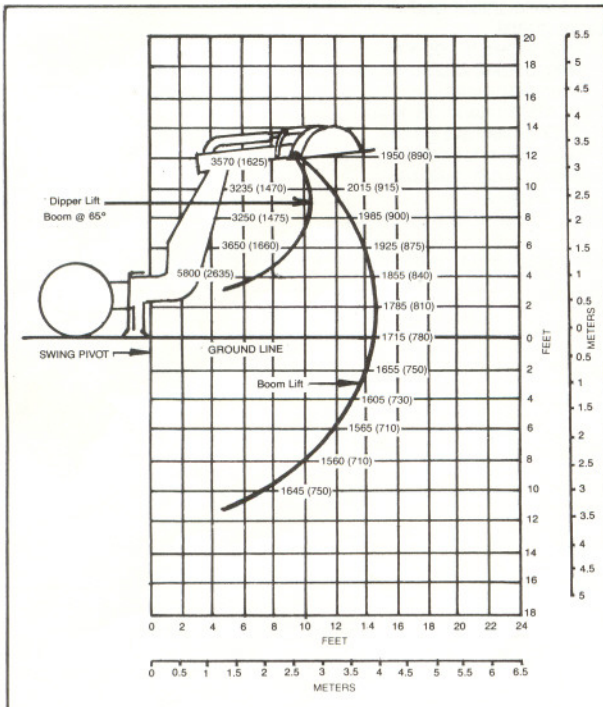
Lifting Capacity Ratings made from bucket hinge pin, loader bucket and stabilizer on firm, level ground. Lifting capacities are 87 percent of the maximum lift over any point on the swing arc and do not exceed 75 percent of the tipping load. Angle between boom and ground at 65 degrees. Machine equipped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



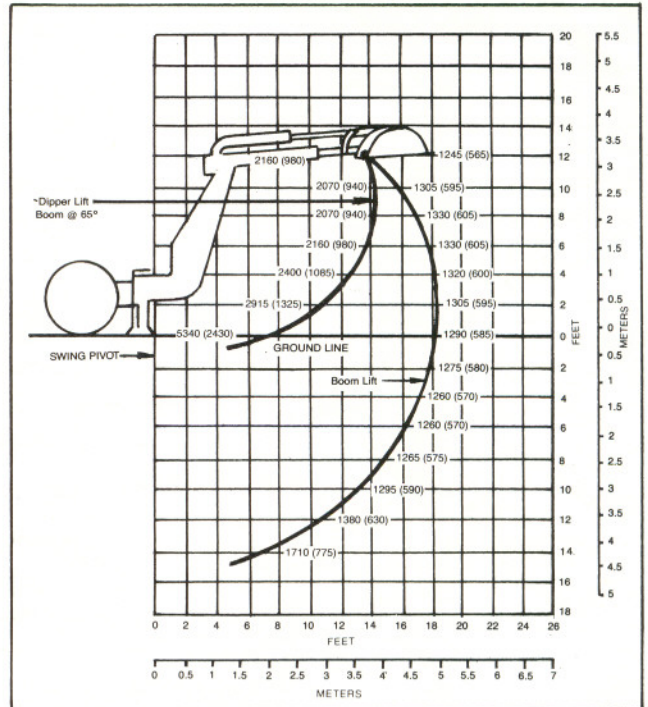
Rated lift capacities are in lb. (kg)
Lift capacities are hydraulically limited.

**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

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	(.76)	
	92	(2340)	1.3	(1.00)	
Long lip	89.4	(2270)	1.25	(.96)	
Backhoe:			Cu. Ft.	(m ³)	
Standard-duty	12	(305)	3.0	(.08)	
	16	(406)	4.5	(.13)	
	18	(457)	5.1	(.14)	
	24	(610)	7.5	(.21)	
	24	(610)	8.8	(.25)	
	30	(762)	10.0	(.28)	
	36	(914)	10.0	(.28)	
	36	(914)	14.5	(.41)	
	Heavy-duty	18	(457)	5.1	(.14)
		24	(610)	7.5	(.21)
30		(762)	10.0	(.28)	
36		(914)	10.0	(.28)	
36	(914)	14.5	(.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 (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

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 conditer, 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

*See your John Deere dealer for further information