

## ENGINE

**410E**

Type.....	John Deere 4045T Turbocharged	
Rated power @ 2,200 rpm.....	98 SAE gross hp (73 kW)	90 SAE net hp (67 kW)
Cylinders.....	4	
Displacement.....	276 cu. in. (4.524 L)	
Fuel consumption, typical.....	1.5 to 2.5 gal./hr. (5.7 to 9.5 L/h)	
Torque rise.....	34 percent	
Maximum net torque.....	287 lb.-ft. (389 Nm)	
Lubrication.....	pressure system with full-flow spin-on filter and cooler	
Air cleaner.....	dual stage dry type with safety element and precleaner	
Electrical system.....	12 volt with 65-amp alternator	
Sucker-type cooling fan.....		

## TRANSMISSION

four-speed, helical cut gear, collar shift transmission synchronized in all gears with hydraulic reverser

Torque converter, single stage, dual phase with 2.12:1 stall ratio.....	11 in. (280 mm)	
Travel speeds with 19.5L-24 rear tires.....	<i>Forward</i>	<i>Reverse</i>
Gear 1.....	3.6 mph (5.8 km/h)	4.0 mph (6.4 km/h)
Gear 2.....	5.9 mph (9.5 km/h)	6.6 mph (10.6 km/h)
Gear 3.....	14.4 mph (23.2 km/h)	16.1 mph (25.9 km/h)
Gear 4.....	24.4 mph (39.3 km/h)	27.2 mph (43.8 km/h)

## FINAL DRIVES

heavy-duty, inboard planetary final drives evenly distribute shock loads over three gears

## BRAKES

hydraulic wet disk, mounted inboard, self adjusting and self equalizing

## CAPACITIES

Fuel tank (with ground level fueling).....	36 gal. (136 L)
Engine coolant.....	17 qt. (16 L)
Engine oil including filter.....	14 qt. (13 L)
Torque converter and transmission.....	15 qt. (14 L)
Hydraulic system.....	25 gal. (95 L)
Rear axle.....	3.5 gal. (13 L)
Mechanical-front-wheel-drive axle.....	2.3 gal. (8.5 L)

## STEERING

hydrostatic power steering conforms to SAE J1151, emergency steering to SAE J53

Non-powered axle	
Curb turning radius with brakes.....	11 ft. 8 in. (3.56 m)
Without brakes.....	13 ft. 3 in. (4.04 m)
Bucket clearance circle with brakes.....	31 ft. 8 in. (9.65 m)
Without brakes.....	34 ft. 9 in. (10.59 m)
Steering wheel turns, stop to stop.....	2.3 to 3.0

Mechanical-front-wheel-drive	
Curb turning radius with brakes.....	11 ft. 5 in. (3.48 m)
Without brakes.....	13 ft. 6 in. (4.11 m)
Bucket clearance circle with brakes.....	29 ft. 7 in. (9.02 m)
Without brakes.....	33 ft. 8 in. (10.26 m)
Steering wheel turns, stop to stop.....	2.5
Axle oscillation, stop to stop, both axles.....	22 degrees

Axle ratings (SAE J43)	
Front.....	22,360 lb. (10 140 kg)
Rear.....	15,530 lb. (7045 kg)

## HYDRAULIC SYSTEM

System.....	pressure compensated load sensing (PCLS)
Pressure, main relief.....	3,625 psi (25 000 kPa)
Pump.....	axial piston
Flow @ 2,200 rpm.....	42 gpm (159 L/min.)
Filter, return oil.....	10-micron, spin-on vertical replaceable element

**CYLINDERS**

**410E**

	<i>Bore</i>	<i>Stroke</i>	<i>Rod</i>
Loader boom (2) .....	3.15 in. (80 mm)	31.1 in. (790 mm)	1.97 in. (50 mm)
Loader bucket (1) .....	3.54 in. (90 mm)	29.3 in. (744 mm)	1.97 in. (50 mm)
Backhoe boom (1) .....	4.92 in. (125 mm)	35.3 in. (897 mm)	2.48 in. (63 mm)
Backhoe crowd (1) .....	4.53 in. (115 mm)	27.7 in. (703 mm)	2.48 in. (63 mm)
Backhoe bucket (1) .....	3.94 in. (100 mm)	31.9 in. (810 mm)	2.48 in. (63 mm)
Backhoe swing (2) .....	3.54 in. (90 mm)	10.9 in. (278 mm)	1.97 in. (50 mm)
Backhoe extendable dipperstick (1) .....	2.76 in. (70 mm)	47.8 in. (1214 mm)	1.77 in. (45 mm)
Backhoe stabilizer (2) .....	3.94 in. (100 mm)	19.7 in. (500 mm)	1.97 in. (50 mm)
Steering (1) non-powered axle .....	2.20 in. (56 mm)	9.49 in. (241 mm)	0.98 in. (25 mm)
Steering (1) MFWD .....	2.56 in. (65 mm)	8.27 in. (210 mm)	1.42 in. (36 mm)

**TIRES**

	<i>Rear</i>	<i>Front</i>
With non-powered front axle .....	19.5L-24, 10 PR R4 21L-24, 10 PR R4	11L-16, 12 PR F3 14.5/75-16.1, 10 PR F3
With mechanical-front-wheel-drive .....	19.5L-24, 10 PR R4 21L-24, 10 PR R4	12.5/80-18, 10 PR 12.5/80-18, 10 PR

**SAE OPERATING WEIGHTS**

Standard .....	15,000 lb. (6804 kg)
Cab adds .....	580 lb. (263 kg)
Mechanical-front-wheel-drive with tires adds .....	325 lb. (147 kg)
Extendable dipperstick excluding required counter-weight adds .....	638 lb. (289 kg)
Optional 400-lb. counterweight adds .....	400 lb. (181 kg)
Optional 650-lb. counterweight adds .....	650 lb. (295 kg)
Optional 250-lb. bolt-on counterweight adds .....	250 lb. (113 kg)
Backhoe bucket coupler adds .....	130 lb. (59 kg)

See backhoe and loader performance data for bucket weights.

**LOADER BUCKETS**

	<i>Width</i>	<i>Heaped Capacity</i>	<i>Weight</i>
Heavy-duty long lip .....	86 in. (2180 mm)	1.25 cu. yd. (0.96 m <sup>3</sup> )	875 lb. (397 kg)
	92 in. (2340 mm)	1.30 cu. yd. (1.00 m <sup>3</sup> )	1,050 lb. (476 kg)
	92 in. (2340 mm)	1.50 cu. yd. (1.15 m <sup>3</sup> )	1,190 lb. (540 kg)
Multipurpose .....	92 in. (2340 mm)	1.25 cu. yd. (0.96 m <sup>3</sup> )	1,550 lb. (703 kg)

Auxiliary cutting edge and skid shoes are standard on all buckets.

**BACKHOE PERFORMANCE**

	<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick*</i>	
		<i>Retracted</i>	<i>Extended</i>
Digging force, bucket cylinder .....	14,801 lb. (65.8 kN)	15,010 lb. (66.7 kN)	15,010 lb. (66.7 kN)
Digging force, crowd cylinder .....	8,741 lb. (38.9 kN)	8,446 lb. (37.6 kN)	5,980 lb. (26.6 kN)
Swing arc .....	180 degrees	180 degrees	180 degrees
Operator control .....	two levers	right foot treadle	right foot treadle
Bucket rotation .....	190 degrees	190 degrees	190 degrees
Stabilizer angle rearward .....	18 degrees	18 degrees	18 degrees
Leveling angle .....	14 degrees	14 degrees	14 degrees

\*Backhoe specifications are with 24 in. x 7.5 cu. ft. (610 mm x 0.21 m<sup>3</sup>) bucket.

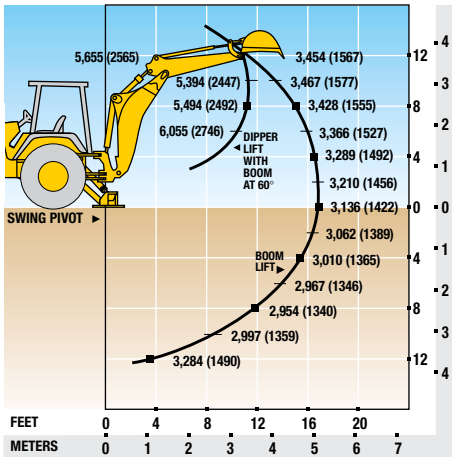
**BACKHOE BUCKETS**

	<i>Width</i>	<i>Capacity</i>	<i>Weight</i>
Standard duty .....	24 in. (610 mm)	7.5 cu. ft. (0.21 m <sup>3</sup> )	350 lb. (159 kg)
Heavy duty .....	12 in. (305 mm)	3.3 cu. ft. (0.09 m <sup>3</sup> )	295 lb. (134 kg)
	18 in. (457 mm)	5.1 cu. ft. (0.14 m <sup>3</sup> )	335 lb. (152 kg)
	24 in. (610 mm)	7.5 cu. ft. (0.21 m <sup>3</sup> )	400 lb. (181 kg)
	24 in. (610 mm)	8.8 cu. ft. (0.25 m <sup>3</sup> )	420 lb. (191 kg)
	30 in. (762 mm)	10.0 cu. ft. (0.28 m <sup>3</sup> )	445 lb. (202 kg)
Extra heavy duty .....	36 in. (914 mm)	12.5 cu. ft. (0.35 m <sup>3</sup> )	510 lb. (231 kg)
	18 in. (457 mm)	5.1 cu. ft. (0.14 m <sup>3</sup> )	362 lb. (164 kg)
	24 in. (610 mm)	7.5 cu. ft. (0.21 m <sup>3</sup> )	425 lb. (193 kg)
	24 in. (610 mm)	8.8 cu. ft. (0.25 m <sup>3</sup> )	455 lb. (206 kg)
Ditch cleaning .....	30 in. (762 mm)	10.0 cu. ft. (0.28 m <sup>3</sup> )	475 lb. (215 kg)
	36 in. (914 mm)	12.5 cu. ft. (0.35 m <sup>3</sup> )	510 lb. (231 kg)

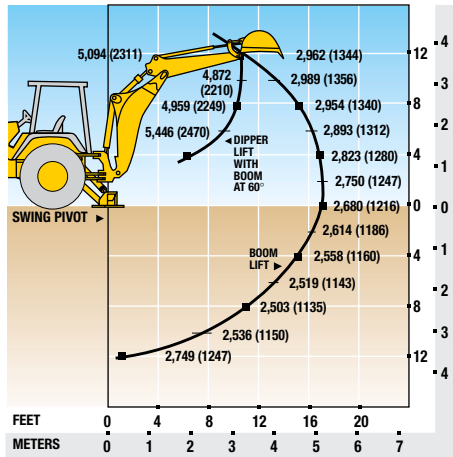
# LIFT CAPACITIES \* / DIMENSIONS

\*Lift capacities are over-end values in lb. (kg) according to SAE J31. Figures listed are 87% of the maximum lift force available. Base vehicle includes counterweight.

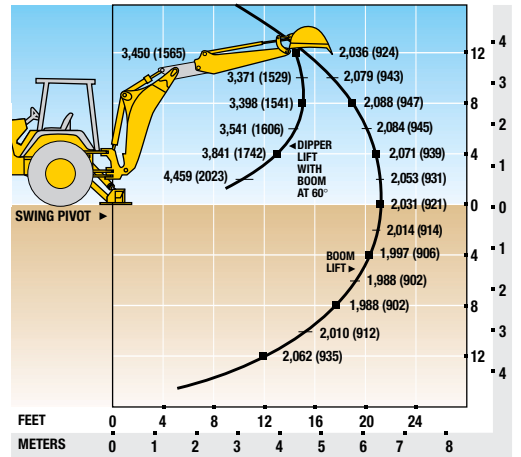
**410E BACKHOE WITH  
STANDARD DIPPERSTICK**



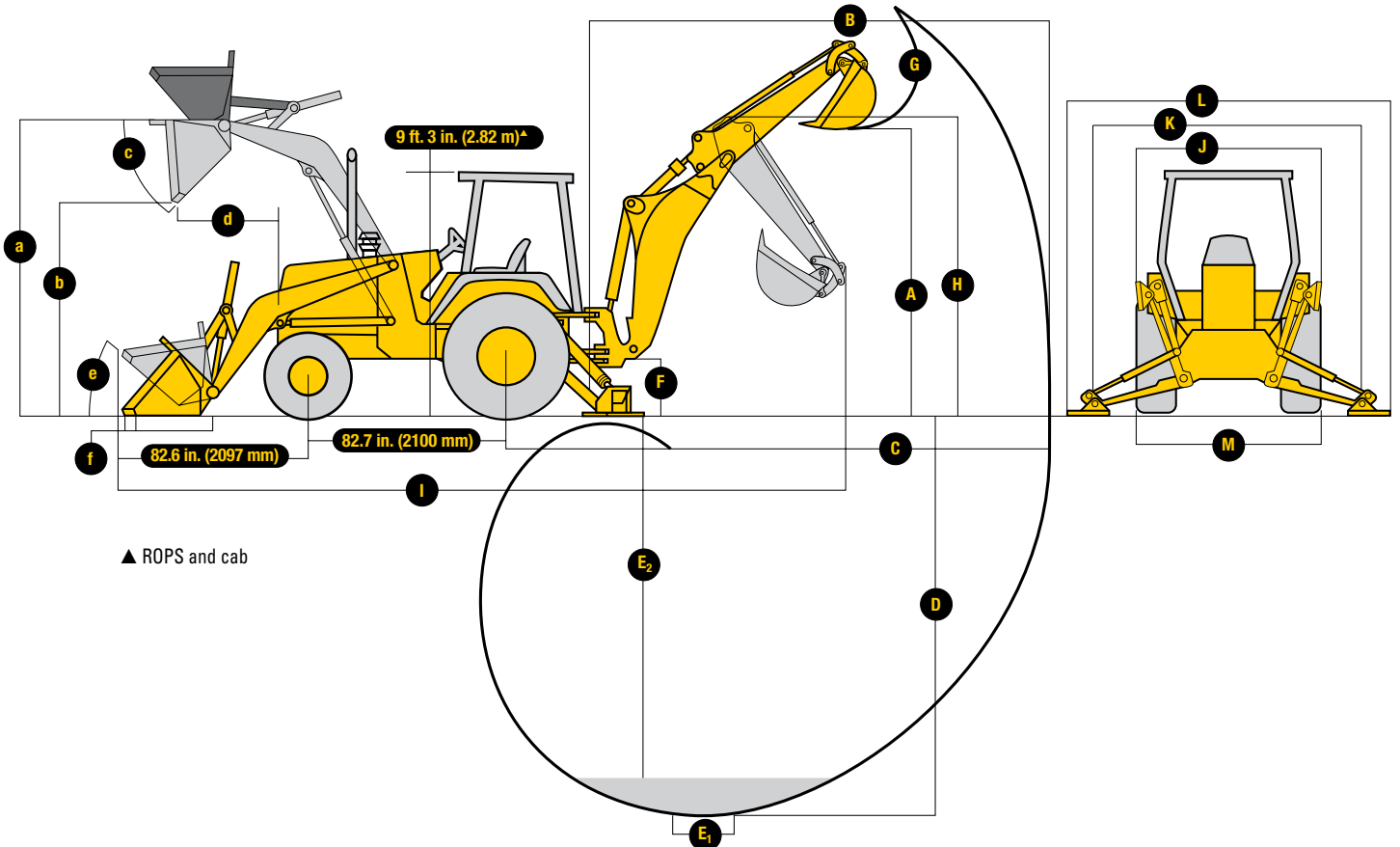
**410E BACKHOE WITH 4 FT. (1.22 M)  
EXTENDABLE DIPPERSTICK, RETRACTED**



**410E BACKHOE WITH 4 FT. (1.22 M)  
EXTENDABLE DIPPERSTICK, EXTENDED**



**DIMENSIONS (SEE PAGE 19.)**



**BACKHOE**

**410E**

	<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick* Retracted</i>	<i>Extended</i>
<b>A</b> Loading height, truck loading position .....	12 ft. 6 in. (3.81 m)	12 ft. 8 in. (3.86 m)	15 ft. 6 in. (4.72 m)
<b>B</b> Reach from center of swing mast.....	19 ft. 8 in. (5.99 m)	19 ft. 11 in. (6.07 m)	23 ft. 8 in. (7.21 m)
<b>C</b> Reach from center of rear axle .....	23 ft. 4 in. (7.11 m)	23 ft. 7 in. (7.19 m)	27 ft. 4 in. (8.33 m)
<b>D</b> Maximum digging depth.....	15 ft. 10 in. (4.83 m)	16 ft. 1 in. (4.90 m)	20 ft. (6.10 m)
<b>E</b> Digging depth (SAE):			
(1) 2-ft. (610 mm) flat bottom.....	15 ft. 8 in. (4.78 m)	15 ft. 11 in. (4.85 m)	19 ft. 11 in. (6.07 m)
(2) 8-ft. (2440 mm) flat bottom.....	14 ft. 7 in. (4.45 m)	14 ft. 11 in. (4.55 m)	19 ft. 1 in. (5.82 m)
<b>F</b> Ground clearance, minimum.....	14 in. (356 mm)	14 in. (356 mm)	14 in. (356 mm)
<b>G</b> Bucket rotation.....	190 degrees	190 degrees	190 degrees
<b>H</b> Transport height.....	12 ft. 11 in. (3.94 m)	12 ft. 10 in. (3.91 m)	12 ft. 10 in. (3.91 m)
<b>I</b> Overall length, transport.....	23 ft. 11 in. (7.29 m)	23 ft. 11 in. (7.29 m)	23 ft. 11 in. (7.29 m)
<b>J</b> Stabilizer width – transport with ROPS.....	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)	7 ft. 2 in. (2.18 m)
<b>K</b> Stabilizer spread – operating.....	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
<b>L</b> Stabilizer overall width – operating.....	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)	11 ft. 7 in. (3.53 m)
<b>M</b> Width over tires.....	86 in. (2.18 m)	86 in. (2.18 m)	86 in. (2.18 m)

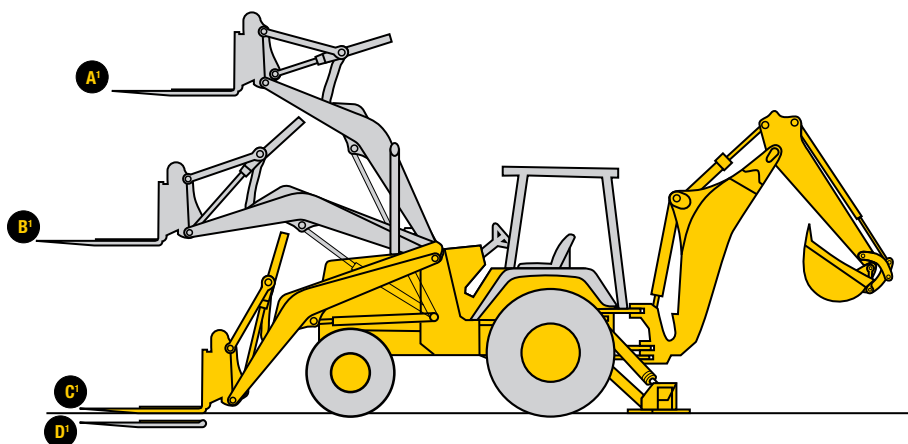
\*Backhoe specifications are with 24 in. x 7.5 cu. ft. (610 mm x 0.21 m<sup>3</sup>) bucket.

**LOADER PERFORMANCE WITH BUCKET OPTIONS**

	<i>1.25 cu. yd. (0.96 m<sup>3</sup>) Heavy-Duty Long-Lip</i>	<i>1.30 cu. yd. (1.00 m<sup>3</sup>) Heavy-Duty Long-Lip</i>	<i>1.50 cu. yd. (1.15 m<sup>3</sup>) Heavy-Duty Long-Lip</i>	<i>1.25 cu. yd. (0.96 m<sup>3</sup>) Multipurpose</i>
Operator control.....	single lever	single lever	single lever	dual lever
Breakout force .....	10,210 lb. (45.4 kN)	10,300 lb. (45.8 kN)	10,170 lb. (45.2 kN)	9,700 lb. (43.1 kN)
Lifting capacity, full height.....	7,340 lb. (3332 kg)	7,200 lb. (3266 kg)	7,070 lb. (3207 kg)	6,700 lb. (3039 kg)
<b>a</b> Height to bucket hinge pin, maximum .....	11 ft. (3.35 m)	11 ft. (3.35 m)	11 ft. (3.35 m)	11 ft. (3.35 m)
<b>b</b> Dump clearance, bucket at 45 degrees .....	8 ft. 4 in. (2.49 m)	8 ft. 10 in. (2.69 m)	8 ft. 9 in. (2.67 m)	8 ft. 8 in. (2.64 m)
<b>c</b> Bucket dump angle, maximum .....	45 degrees	45 degrees	45 degrees	45 degrees
<b>d</b> Reach at full height, bucket at 45 degrees .....	35.5 in. (902 mm)	30.0 in. (762 mm)	31.0 in. (787 mm)	32.2 in. (818 mm)
<b>e</b> Rollback angle at ground level.....	40 degrees	40 degrees	40 degrees	40 degrees
<b>f</b> Digging depth below ground, bucket level.....	4.2 in. (107 mm)	6.7 in. (170 mm)	6.2 in. (157 mm)	5.9 in. (150 mm)
Raising time to full height.....	4.8 sec.	4.8 sec.	4.8 sec.	4.8 sec.
Bucket dump time.....	1.4 sec.	1.4 sec.	1.4 sec.	1.4 sec.
Bucket lowering time (power down).....	2.3 sec.	2.3 sec.	2.3 sec.	2.3 sec.

**LIFT CAPACITY WITH QUICK COUPLER/FORKS**

<b>A</b> Maximum height.....	5,038 lb. (2287 kg)
<b>B</b> Maximum reach.....	7,462 lb. (3388 kg)
<b>C</b> At ground line.....	9,853 lb. (4473 kg)
<b>D</b> Below ground line.....	4.4 in. (112.7 mm) to bottom of tine / 2.7 in. (68.3 mm) to top of tine



	410E		410E		410E
<b>ENGINE</b>					
John Deere Model 4045T – 4.5 liter, 90 SAE net hp turbo-charged, isolation mounted	●	Heavy duty with lift loops Severe duty with lift loops	■	Fuel gauge, illuminated electric	●
Vertical spin-on engine oil filter	●	Backhoe bucket coupler for “C” and “D” series John Deere buckets, Case buckets, and Cat buckets	■	Gauge package, illuminated electric	■
Spin-on John Deere fuel filter with water separator	●	Extendible dipperstick, 4 ft. extension	■	Engine coolant temperature / Transmission oil temperature / Alternator volts / Fuel gauge	●
Oil-to-water engine oil cooler	●	Auxiliary backhoe valve for swingers, thumbs, etc.	■	Monitor system with audible and visual warning	●
Antifreeze, –34°F (–37°C)	●	Auxiliary backhoe valve for hammers, compactors	■	Engine air filter restriction indicator / Alternator indicator / Engine coolant temperature indicator with audible warning / Engine oil pressure indicator with audible warning / Hydraulic filter restriction indicator / Torque converter oil temperature indicator / Parking brake on/off indicator with audible warning / Seat belt indicator / Mechanical-front-wheel-drive on/off indicator / Beacon on/off indicator / Hydraulic oil temperature indicator	●
Coolant recovery tank	●	Auxiliary backhoe plumbing for hammers, compactors	■		
Serpentine belt with automatic belt tensioner	●	SAE controlled load lowering device valves	■		
Sucker-type cooling fan	●				
Enclosed safety fan guard	●	<b>LOADER</b>			
High ambient temperature engine cooling	■	Hydraulic self leveling	●		
Dual element dry-type air cleaner	●	Return-to-dig feature	●		
Muffler, underhood with curved-end exhaust stack	●	Single-lever control with electric clutch cutoff switch	●		
Chrome exhaust extension	■	Bucket-level indicator	●		
Electric ether starting aid	■	Loader boom service lock	●		
Engine coolant heater, 1,000 watts	■	Auxiliary loader hydraulics with two-lever control	■		
		Loader front coupler	■		
<b>POWER TRAIN</b>		Loader buckets			
Powershift transmission	■	Less bucket, with bucket pins	●	Seats and seat belts	
Torque converter with electrically actuated twist grip		Heavy-duty buckets with bolt-on cutting edge, skid plates, and lift loops	■	Non-suspension vinyl swivel seat without armrests	●
F-N-R in 1st through 4th gears		Multipurpose bucket with bolt-on cutting edge, skid plates, and lift loops	■	Suspension vinyl swivel seat with armrests and lumbar support	■
Transmission with powershift reverser and torque converter	●			Suspension fabric swivel seat with armrests and lumbar support	■
Fully synchronized four forward, four reverse speeds / Isolation mounted to mainframe		<b>HYDRAULIC SYSTEM</b>		Air suspension vinyl swivel seat with armrests and lumbar support	■
Transmission oil cooler	●	42 gpm (159 L/min.) axial piston pump, PCLS system	●	Air suspension fabric swivel seat with armrests and lumbar support	■
Vertical spin-on transmission filter	●	Independent hydraulic reservoir	●	2-in. seat belt with retractors	●
Electric forward-neutral-reverse control lever with neutral safety switch interlock	●	Hydraulic oil cooler	●	3-in. seat belt with retractors	■
Electric clutch cutoff on gearshift and loader levers	●	“O”-ring face seal connectors	●	Cab	■
Differential lock, electric foot-actuated	●	10-micron vertical spin-on filter	●	Headliner	●
Planetary final drives	●			Dome light	●
Hydraulic service brakes	●	<b>ELECTRICAL</b>		Left cab door	●
Inboard, wet multi-disc, self adjusting and self equalizing / Conform to SAE J1473	●	12-volt system	●	Right cab door	■
Parking/emergency brake with electric switch control	●	65-amp alternator	●	Tinted safety glass	●
Spring applied, hydraulically released wet multi-disc / Independent of service brakes / Conforms to SAE J1473	●	Single battery with 150-min. reserve capacity and 750 CCA	●	Two front and one rear windshield wipers	●
Hydrostatic power steering with emergency manual mode	●	Dual batteries with 300-min. reserve capacity and 1,500 CCA	■	Front windshield washer	■
Non-powered front axle	●	Positive terminal battery cover	●	Fresh air intake heater/defroster/pressurizer 40,000 Btu/hr. (11.7 kW) heater	●
Mechanical-front-wheel-drive with limited slip differential	■	Blade-type multi-fused circuits	●	Air conditioning 26,000 Btu/hr. (7.6 kW) output / CFC-free R134a refrigerant	■
Electric on/off control / Drive-shaft guard / Sealed axle		By-pass start safety cover on starter	●	65-amp alternator	●
Tires				95-amp alternator	■
11L-16 F3 front tires	●	<b>LIGHTS</b>		AM/FM/weatherband radio	■
14.5/75-16.1 F3 front tires	■	Two front halogen driving/work lights, 32,500 candlepower each	●	Ride control	■
12.5/80-18 traction front tires	■	Two additional front halogen work lights, 32,500 candlepower each	●		
19.5L-24 R4 rear tires	●	Two rear halogen work lights, 32,500 candlepower each	●	<b>OVERALL VEHICLE</b>	
21L-24 R4 rear tires	■	Two front and two rear turn signal/flashing	●	One-piece unitized construction mainframe	●
Rear wheel spacers for use with chains	■	Two rear stop and tail	●	Vehicle tie-downs, two front and one rear	●
		Two rear reflectors	●	Remote grease bank for front axle	●
		Rotating beacon	■	Rigid mounted front bumper	●
				Front counterweights	
<b>BACKHOE</b>		<b>OPERATOR'S STATION</b>		400 lb. (181 kg)	■
Backhoe with standard dipperstick, 15 ft. 10 in. digging depth	●	Modular-design ROPS/FOPS canopy with molded roof	●	650 lb. (295 kg)	■
Backhoe controls		Isolation mounted / Conforms to SAE J1040		900 lb. (408 kg)	■
Two-lever (Deere) controls	●	Left and right front access	●	1,150 lb. (522 kg)	■
Three-lever (Case) controls	■	Slip-resistant steps and ergonomically located handholds	●	1,400 lb. (635 kg)	■
Four-lever (Ford) controls	■	Molded floor mat	●	Fuel tank, 36 gal. (136 L), ground level fueling	●
SAE excavator two-lever controls	■	Headliner	●	Engine sideshields with sliding service access door	●
Backhoe transport lock lever	●	Coat hook	●	Front grille screen	■
Swing lock pin stored in operator's station	●	Built-in beverage and Thermos® bottle holders	●	Vandal protection for instrument panel, engine access doors, and fuel tank	●
Stabilizer valve with two-direction anti-drift valves	●	Built-in Operator's Manual storage compartment with manual	●	Reverse warning alarm	●
Pivoting stabilizers	●	Interior rearview mirror	●	Switchable to 97 dB(A) or 111 dB(A)	■
With dirt pads	●	Outside rearview mirrors	●	Dent-resistant rear fenders	●
With reversible pads	■	Hand throttle with fuel economy setting at 2,100 rpm	●	Rear fender extensions	■
Stabilizer cylinder guards	■	Suspended foot throttle	■	Front fenders*	■
Backhoe buckets		Tilt steering	●	SMV emblem	■
Less bucket, with bucket pins	●	Horn	●	Rental decal kit	■
Standard duty with lift loops	■	Key start switch with electric fuel shutoff	●	Special color paint*	■
		Tachometer/hourmeter, illuminated electric	●	Quarter cab*	■

**KEY:** ● Standard equipment ■ Optional or special equipment

\*See your John Deere dealer for further information.



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 at 35 API gravity. No derating is required up to 10,000 feet (3050 m). Gross power is without cooling fan.

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 19.5L-24, 10 PR R4 rear tires, 11L-16, 12 PR F3 front tires, 1.30 cu. yd. (1.00 m<sup>3</sup>) loader bucket, and 24 in. x 7.5 cu. ft. (610 mm x 0.21 m<sup>3</sup>) backhoe bucket.

