

B A C K H O E L O A D E R S

310E



THE 14-FOOT 310E

We gave it our best effort...

When we set out to build a better backhoe loader there was no need to start with a clean sheet of paper. After all, our backhoes were already loaded with good ideas – many of which you'll still find in the 310E.

Instead, we started with a clean sheet of steel. Using high-tech, state-of-the-art design and manufacturing tools, John Deere engineers focused their efforts on improving the basic structures that most impact performance. The result? A versatile 14-foot digging machine with substantial backhoe lift, crowd power, stability, and strength.

But we didn't stop there. The 71-hp 310E is also more nimble. Transport and cycle speeds are quick, and gradability and roadability have been enhanced.

Now it's your turn. Spend a few moments reading this brochure to get acquainted with the 310E. Then go to your John Deere dealership for a hands-on demo. You'll be amazed at how user-friendly the 310E is – at a price that's just as comfortable.

Stronger and more productive than the 310D it replaces, the 310E is the best backhoe value in the 14-foot class. And likely all the backhoe you'll ever need.



The big idea behind the 310E's backhoe design

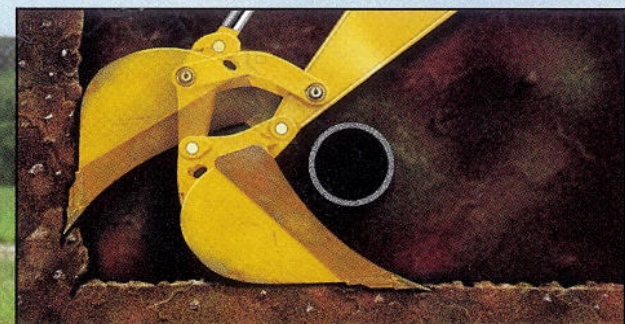
Backhoes are basically used for trenching, right? Oh sure, they also backfill, load, and tackle other tasks, but they're primarily used for digging. That's why the 310E incorporates several ideas found on our larger tracked machines.

With excavator-style boom, bucket, and high-pressure hydraulics, the 310E is an extremely competent backhoe. Slide behind the controls and you'll discover that boom lift, crowd power, and swing torque have increased noticeably. Hydraulics are also smoother, enabling you to do your best work.

The Power Curve™ boom provides smooth and consistent control throughout the entire digging arc. What's more, it provides additional reach both far and near. For less repositioning and better visibility up-close. Makes loading trucks easier, too.

But it's not just the shape of the boom that makes this backhoe different. A unique bucket link lets you go from power-dig to truck-loading position without leaving the seat or pulling a pin.

The 310E's exclusive bucket linkage provides 190 degrees of rotation, making vertical wall excavations a lot easier. What's more, excavator-style curved sidecutters enable you to dig around buried pipe, reducing handwork.



Crane heavy objects? With 4,420 pounds of dipper lift, 310E is up to the task. A boom circuit hydraulic check reduces drift. Buckets come equipped with lift eyes for extra convenience.



Available quick-coupler lets you change buckets and attachments easily and without tools. Accommodates Case, Cat, and Deere C- and D-Series buckets, too.



Available extendable dipperstick adds digging depth and reach. The outer box extends, firmly grasping cumbersome objects while retracting. Synthetic wear strips are easy to lube, simple to replace.



Lever-activated boom lock secures the backhoe in a vertical position for smooth transport. A rubber bumper ensures that the boom stays snug and virtually rattle-free.



Boom starts wide at the base and narrows to less than 9-inches through the line-of-sight for good visibility. Unlike other excavator-style booms, the 310E's compact cylinders share a single-pin attaching point that doesn't impair side-swing visibility, either.

Boom and dipperstick are box-constructed of high-strength steel for heavy-duty durability without excess weight. Forked top and bottom, and large-diameter pins provide extra beef in these high-stress areas.

Power is nothing without control. Two levers are standard; three- or four-lever controls can be factory or field installed. Low effort and smooth response are yours regardless of which configuration you choose.

Rearward-angled 10-foot-wide stabilizers and no-drift cylinders provide rock-solid stability for lifting heavy objects and precise placement of materials.

Here's why the 310E's loader is the best on any backhoe

The same kind of forward-thinking behind the 310E's heavy-duty backhoe is also evident up front.

Loader arms are laser cut, box-constructed of high-tensile steel, and robot-welded for superior strength and consistent quality. A large-diameter reinforced cross tube adds rigidity and resists torsional stress.

The raised knee provides exceptional reach, enabling you to dump to the center of most trucks for quicker and easier loading.

Smooth combined-function metering and an optimum lift-to-crowd match make filling the bucket nearly effortless. The single bucket cylinder utilizes the piston-end for powerful breakout, and the rod-end for fast dumping. Coupled with the refined linkage, you've got better bucket control for smooth cycles with less spillage. Makes grading easier as well.



Bucket level indicator is within your line-of-sight. Nearby automatic return-to-dig switch is well-protected, yet easily accessible. Hydraulic self-leveling and float are also standard.

A 50-degree turning angle gives the 310E a tight 11-foot 9-inch turning radius for easy moves in close quarters.



Available mechanical-front-wheel drive provides extra power and traction to keep the bucket heaped regardless of what's underfoot.



No more shaking the bucket in an attempt to position the load. Superior reach enables the 310E to dump to the center of the truck for easier loading and fast cycles.

Torque tube spillsheet construction (in red) prevents twisting and resists bending. C-shape backwall empties easily and sheds sticky materials.

Transmission disconnect switch diverts full engine power to the hydraulics for faster loading.



Short-throw single lever puts low-effort control of the boom and bucket in the palm of your right hand.



Single bucket cylinder and loader arms that angle outward combine to give an unobstructed view of the work ahead.

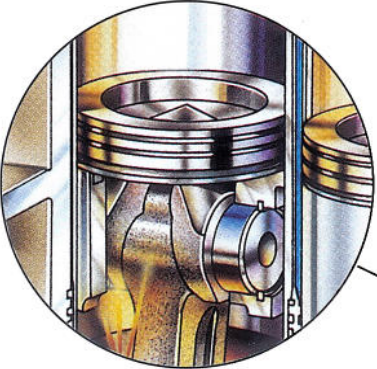
An available quick-coupler lets you couple and release buckets and attachments with a flick of a switch.

Nothing runs like a Deere, because nothing is built like one

Don't let its competitive price fool you. There's nothing light-duty about the 310E. From its heavy-duty high-torque PowerTech™ diesel to its inboard wet-disk brakes, the 310E comes equipped, not stripped. Traditional John Deere features like these make it a reliable, long-time performer. And an excellent value.

Positioned securely in the one-piece high-strength unitized frame, powertrain components are isolated from shock-load stress, yet can be individually removed to decrease downtime. In fact, E-Series refinements have reduced the 310's repair times by as much as 22 percent.

Looking for a competitively priced backhoe that has what it takes over the long-haul? The 310E is manufactured to exacting quality standards in an ISO 9001-certified North American factory, so you can rest assured you're getting the best. When you know how it's built, you'll choose a 310E.



Free-breathing cross-flow cylinder head, specially shaped pistons, and contoured valves increase intake and exhaust flows for maximum power output and top fuel efficiency.

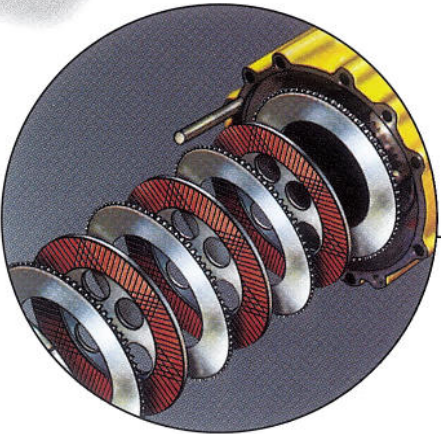
Individually replaceable, spin-cast, wet-type cylinder liners dissipate heat for reduced ring wear and oil breakdown. High-ring pistons provide high compression, three low-friction rings deliver superior oil control.

Advanced PowerTech diesel meets all worldwide emission standards for off-road engines – so the 310E can go to work anywhere rigid standards exist.

4.5 L Deere-built diesel packs a whopping 29 percent torque reserve. What's more, this long-stroke diesel actually digs down and delivers additional horsepower at 1,800 rpm. For extra power when you need it.

Open-center hydraulic system and heavy-duty gear-type pump blends good metering characteristics with low effort for smooth control. Flat-face O-ring seal couplings virtually eliminate annoying and costly leaks.

Planetary final drives distribute loads over three gears and are sealed in a cooling oil bath for long life and trouble-free performance



Self-adjusting and fully modulated so they require less effort and no maintenance, these chatter-free inboard-mounted wet-disk brakes also self-equalize for no-swerve braking in traffic.

Fully enclosed wet-disk parking brake automatically engages whenever the engine stops. Effective on both front and rear wheels (with MFWD), it also neutralizes the reverser so the 310E can't be operated with the brake engaged. Plus, it never needs adjusting.

Rear axle bearings are self-lubricating so you'll never need to grease this frequently overlooked service point.

The 4-speed fully synchronized collar-shift transmission is mounted directly to the engine for superior balance. It's coupled with a single-stage, dual-phase torque converter and electrically actuated reverser for smooth moves.

How the 310E makes an operator's job less like work

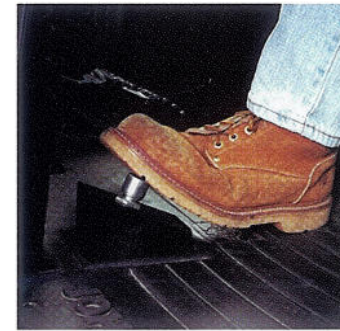
Nobody works harder at making an operator's job easier than John Deere. Even in its basic attire, the 310E's operator station is decked-out with an array of features that help an operator be his best.

The comfortable high-back contoured vinyl seat provides firm thigh and back support. Up-front one-hand controls allow smooth, simultaneous slide and swivel. A full suspension base is available, or for the ultimate in comfort, opt for the cab and fabric-covered, fully adjustable, suspension armchair seat with lumbar support.

Short-throw, fingertip-actuated electric reverser lever lets you shuttle between forward, neutral, or reverse without taking your hands off the steering wheel. Coupled with a fully synchronized 4-speed transmission, smooth, quick cycles are routine.

When it comes to visibility, the 310E is clearly the leader. Its compact forward console, single bucket cylinder, and divergent loader arms give a good view of the corners and bottom of the bucket. Narrow-post ROPs design keeps side visibility unobstructed as well.

Little "extras" are yours for no extra. There's a place for securing your Thermos and for cradling your coffee cup, an inside mirror, and automatic park brake, too.



Low-effort differential lock can be engaged on-the-go and equalizes power between the rear wheels for increased traction in poor underfoot conditions or when moving heavy loads.

A flip of a switch is all it takes to engage or disengage the secondary brake. Independent of the service brakes, it automatically engages whenever the engine stops.



Electronic monitor or optional gauges provide vital machine information at-a-glance from either operating position. Console also houses seat belt warning, ignition and automatic parking brake switches, and climate controls (with cab). Switch for MFWD is conveniently positioned and uniquely shaped for no-look on and off.



At less than 76 dB(A), the 310E's cab is the quietest available. Add a tilt wheel, air conditioning, full gauge package, and deluxe sound system and it's also the best dressed.



Large self-cleaning steps, convenient handholds, and non-skid walk-through floor allow easy entrance and exit.

Bucket-level indicator is within your line-of-sight. Well-positioned ROPS posts allow virtually unrestricted visibility.

Reduced downtime is no accident with the 310E

Keeping you, as well as your machine, on the job and productive is a high priority at John Deere. That's why we build-in so many features to help keep an operator out of harm's way.

When you're talking safety, words like "acceleration" and "speed" probably don't come to mind. That is, unless your backhoe spends much time in traffic. A tighter torque converter match, revised gearing, and better balance let the 310E accelerate quicker and travel faster. Together with its straight-stopping self-equalizing brakes, this backhoe gives you the confidence and ability to take your show on the road.

From bypass-start protection to automatic park brake, fan guard to neutral-start reverser – no other backhoe offers so much. In the 310E, you'll find safety isn't just an afterthought, but an integral and important part of the overall design.

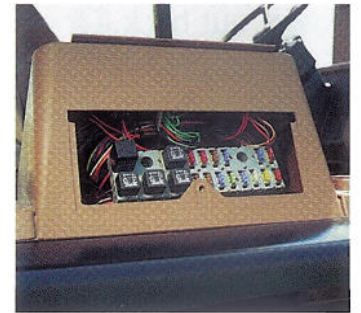
Daily engine, transmission, and cooling system checks can be made through a sliding door on the right side-shield and a large hinged door atop the hood.

Periodic maintenance is also simple, thanks to a front-axle lube bank, vertical spin-on engine oil and fuel filters, and a host of other smartly engineered convenience items.



This sight gauge provides a quick, contamination-free check of the hydraulic oil level.

Riding on a self-cleaning non-binding nylon channel, this sliding door provides easy ground-level access to engine and transmission dipsticks, engine oil fill, and fuel filter.



Each electrical circuit has its own fuse in this centrally located load center. Helps make troubleshooting and service simpler.



We've got what it takes to keep you working

With its heavy-duty loader, excavator-style backhoe, and enhanced hydraulic system, it doesn't take a lot of expensive options to widen the appeal of your 310E.

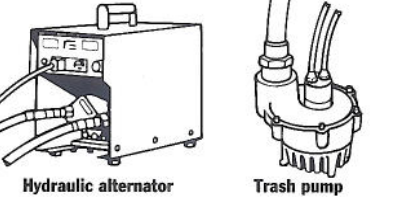
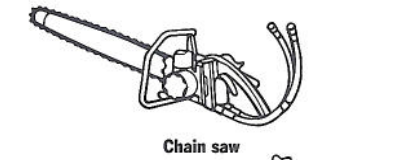
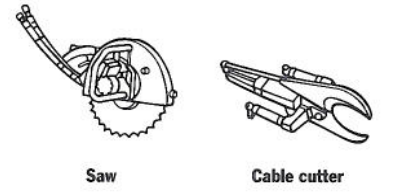
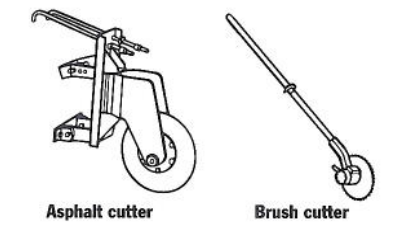
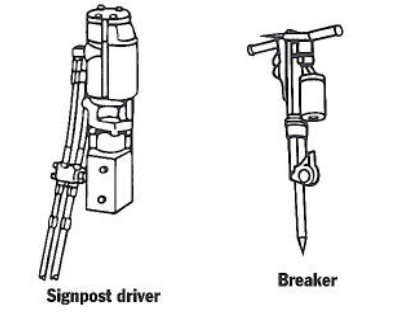
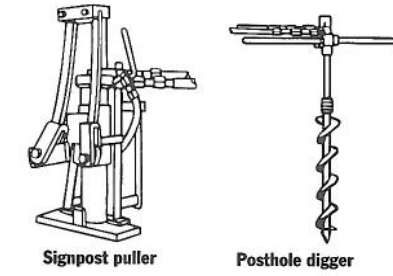
Start with a loader or backhoe quick-coupler that lets you change attachments in seconds. Add a "wet kit" to deliver high-flow hydraulic power out back. Or even a solenoid-controlled low-flow auxiliary valve for hand-held or cylinder-actuated attachments. What you have now is a highly versatile machine that can handle virtually any hydraulic-powered attachment. And there are plenty from which to choose.

But regardless of how many "bells and whistles" it may have, no backhoe is any better than the support behind it. That's why every 310E is backed by a large network of dealers with well-stocked parts inventories, factory-trained technicians, and comprehensive support programs. Add a one year warranty, historically high resale value and low owning and operating costs and the reasons for running a John Deere 310E are better than ever.

Scan this page for an idea of the kind of attachments available. Then get your hands on a 310E. And get to work.

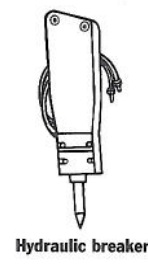
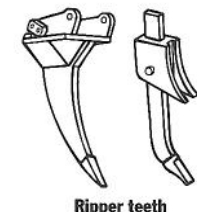
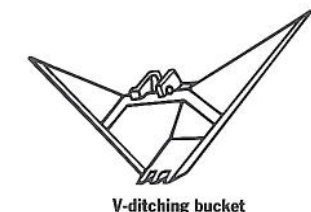
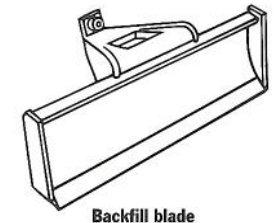
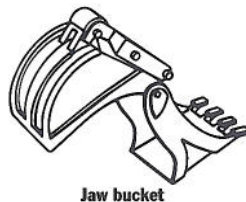
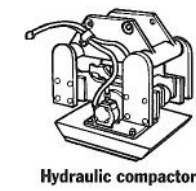
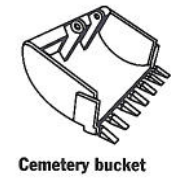
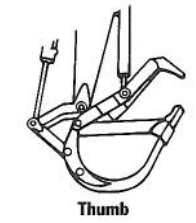
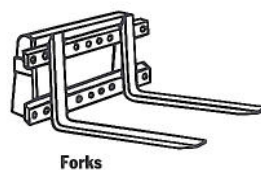
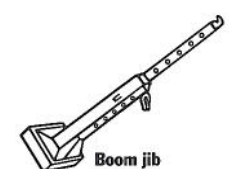
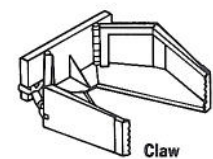
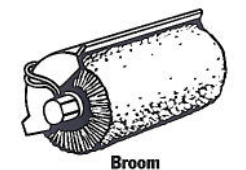
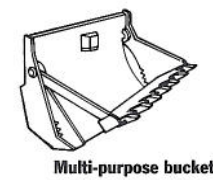
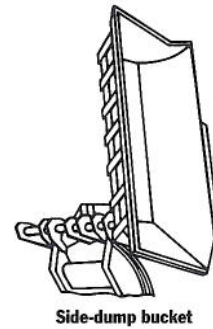
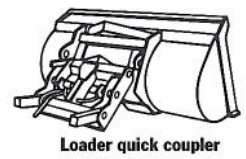


OTHER



LOADER

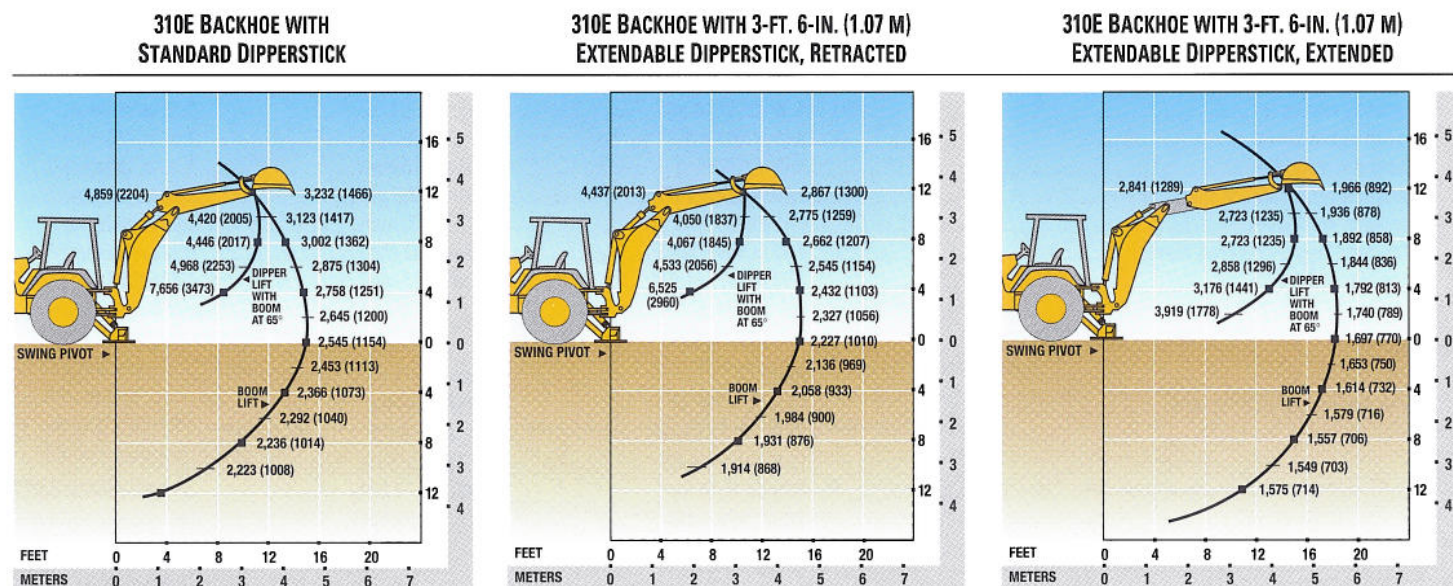
BACKHOE



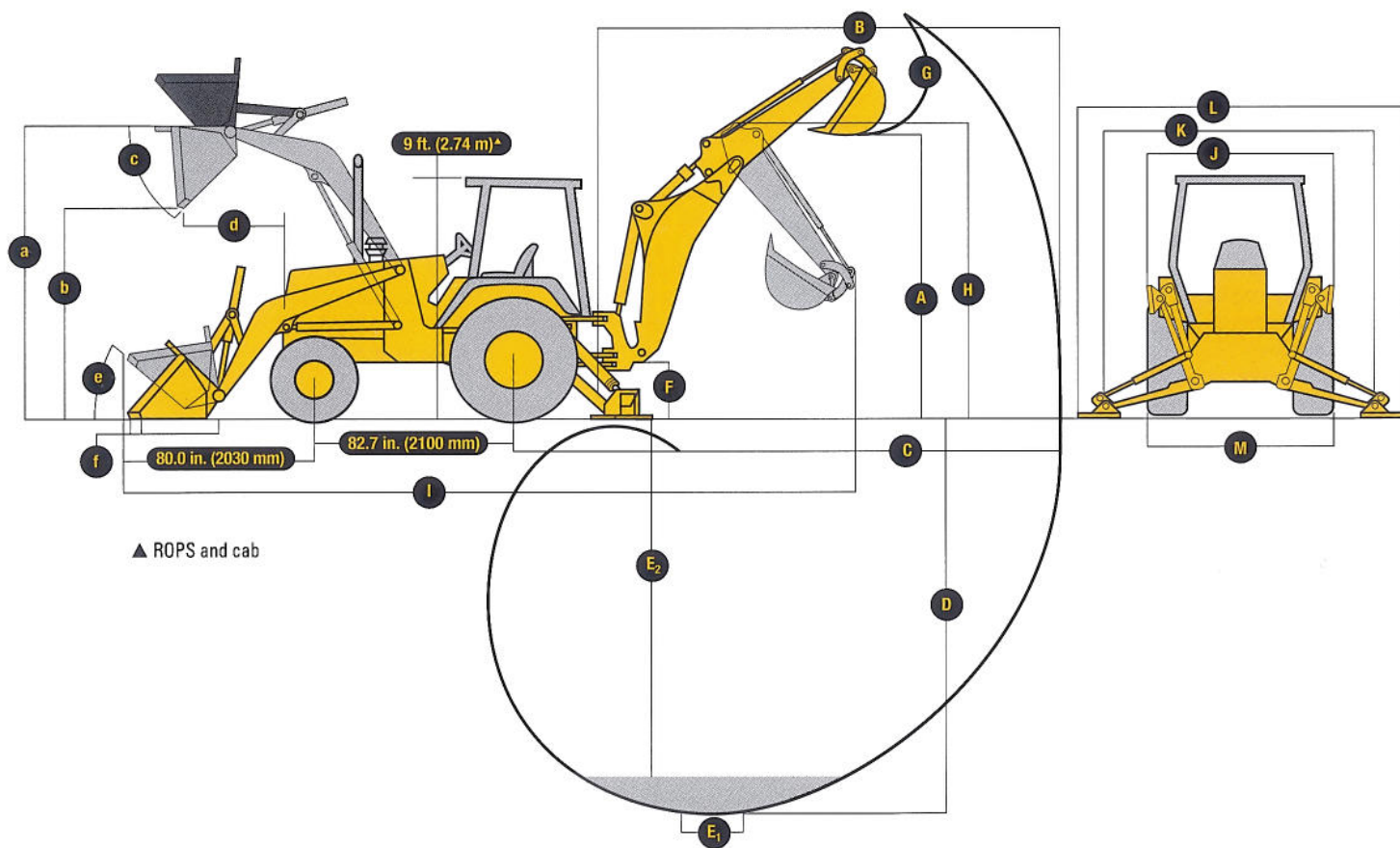
ENGINE		310E	
Type.....	John Deere 4045D – Naturally Aspirated		
Rated power @ 2,200 rpm.....	76 SAE gross hp (57 kW) 71 SAE net hp (53 kW)		
John Deere 4045T with altitude-compensating turbocharger.....	76 SAE gross hp (57 kW) 71 SAE net hp (53 kW)		
Cylinders.....	4		
Displacement.....	276 cu. in. (4.524 L)		
Fuel consumption, typical.....	1.1 to 1.9 gal./hr. (4.2 to 7.2 L/h)		
Torque rise.....	29 percent		
With altitude-compensating turbocharger.....	37 percent		
Maximum net torque.....	218 lb.-ft. (296 Nm)		
With altitude-compensating turbocharger.....	233 lb.-ft. (316 Nm)		
Lubrication.....	pressure system with spin-on filter and cooler		
Air cleaner.....	dual stage dry type with safety element, evacuator valve, and prescreener		
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 2.63:1 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.....	9 qt. (8.5 L)		
Torque converter and transmission.....	15 qt. (14 L)		
Hydraulic system.....	24 gal. (91 L)		
Rear axle.....	3.5 gal. (13 L)		
Mechanical-front-wheel-drive axle.....	2.3 gal. (8.5 L)		
STEERING		hydrostatic power steering and emergency steering conform to ISO5010	
Non-powered axle.....			
Curb turning radius with brakes.....	11 ft. 9 in. (3.57 m)		
Without brakes.....	13 ft. 3 in. (4.04 m)		
Bucket clearance circle with brakes.....	31 ft. 6 in. (9.61 m)		
Without brakes.....	34 ft. 7 in. (10.55 m)		
Steering wheel turns, stop to stop.....	2.3 to 3.0		
Mechanical-front-wheel-drive.....			
Curb turning radius with brakes.....	10 ft. 11 in. (3.34 m)		
Without brakes.....	13 ft. 8 in. (4.17 m)		
Bucket clearance circle with brakes.....	29 ft. 9 in. (9.07 m)		
Without brakes.....	35 ft. 3 in. (10.74 m)		
Steering wheel turns, stop to stop.....	2.5		
Axle oscillations stop to stop, both axles.....	22 degrees		
Axle ratings (SAE J43).....			
Front.....	17,340 lb. (7865 kg)		
Rear.....	12,610 lb. (5720 kg)		
HYDRAULIC SYSTEM			
System.....	open center		
Pressure.....			
Backhoe.....	3,625 psi (25 000 kPa)		
Loader.....	2,750 psi (19 000 kPa)		
Pump.....	gear type		
Flow @ 2,200 rpm.....	28 gpm (106 L/min.)		
Filter, return oil.....	10-micron, spin-on enclosed replaceable element		

CYLINDERS		310E		
	<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).....	3.15 in. (80 mm)	33.7 in. (856 mm)	1.77 in. (45 mm)	
Backhoe boom (1).....	4.33 in. (110 mm)	32.3 in. (821 mm)	2.20 in. (56 mm)	
Backhoe crowd (1).....	4.33 in. (110 mm)	22.3 in. (566 mm)	2.20 in. (56 mm)	
Backhoe bucket (1).....	3.15 in. (80 mm)	35.1 in. (892 mm)	1.97 in. (50 mm)	
Backhoe swing (2).....	3.15 in. (80 mm)	12.2 in. (310 mm)	1.77 in. (45 mm)	
Backhoe extendable dipperstick (1).....	2.48 in. (63 mm)	42.0 in. (1067 mm)	1.26 in. (32 mm)	
Backhoe stabilizer (2).....	3.15 in. (80 mm)	19.7 in. (500 mm)	1.97 in. (50 mm)	
Steering (1) non-powered axle.....	1.97 in. (50 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.....	16.9-24, 8 PR R4	11L-15, 8 PR F3		
	17.5L-24, 10 PR R4	11L-15, 8 PR F3		
	19.5L-24, 8 PR R4	11L-16, 12 PR F3		
With mechanical-front-wheel-drive.....	16.9-24, 8 PR R4	12-16.5, 8 PR NHS		
	19.5L-24, 8 PR R4	12-16.5, 8 PR NHS		
SAE OPERATING WEIGHTS				
Standard.....	12,800 lb. (5806 kg)			
Cab adds.....	580 lb. (263 kg)			
Mechanical-front-wheel-drive with tires adds.....	370 lb. (168 kg)			
Extendable dipperstick excluding required counterweight adds.....	440 lb. (200 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)	1.00 cu. yd. (0.76 m ³)	710 lb. (322 kg)	
Heavy-duty long lip**.....	86 in. (2180 mm)	1.12 cu. yd. (0.86 m ³)	940 lb. (426 kg)	
Heavy-duty long lip.....	86 in. (2180 mm)	1.25 cu. yd. (0.96 m ³)	875 lb. (397 kg)	
Multipurpose**.....	86 in. (2180 mm)	1.12 cu. yd. (0.86 m ³)	1,450 lb. (658 kg)	
*Pre-drilled for auxiliary cutting edge.				
**With auxiliary cutting edge and skid shoes standard.				
BACKHOE PERFORMANCE		<i>With Standard Backhoe*</i>	<i>With Extendable Dipperstick*</i>	
		<i>Retracted</i>	<i>Extended</i>	
Digging force, bucket cylinder.....	11,106 lb. (49.4 kN)	11,211 lb. (49.9 kN)	11,211 lb. (49.9 kN)	
Digging force, crowd cylinder.....	7,006 lb. (31.2 kN)	6,782 lb. (30.2 kN)	4,844 lb. (21.5 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 6.5 cu. ft. (610 mm x 0.18 m ³) bucket.				
BACKHOE BUCKETS		<i>Width</i>	<i>Capacity</i>	<i>Weight</i>
Standard duty.....	18 in. (457 mm)	4.6 cu. ft. (0.13 m ³)	260 lb. (118 kg)	
	24 in. (610 mm)	6.5 cu. ft. (0.18 m ³)	300 lb. (136 kg)	
Heavy duty with lift loop.....	12 in. (305 mm)	2.8 cu. ft. (0.11 m ³)	240 lb. (109 kg)	
	18 in. (457 mm)	5.1 cu. ft. (0.14 m ³)	335 lb. (152 kg)	
	24 in. (610 mm)	7.5 cu. ft. (0.21 m ³)	400 lb. (181 kg)	
	30 in. (762 mm)	10.0 cu. ft. (0.28 m ³)	445 lb. (202 kg)	

*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.



DIMENSIONS (SEE PAGE 19.)



BACKHOE

310E

	With Standard Backhoe*	With Extendable Dipperstick*	
		Retracted	Extended
A Loading height, truck loading position.....	10 ft. 11 in. (3.33 m)	11 ft. 1 in. (3.38 m)	13 ft. 11 in. (4.24 m)
B Reach from center of swing pivot.....	17 ft. 10 in. (5.44 m)	18 ft. 1 in. (5.51 m)	21 ft. 5 in. (6.53 m)
C Reach from center of rear axle.....	21 ft. 4 in. (6.50 m)	21 ft. 7 in. (6.58 m)	24 ft. 11 in. (7.59 m)
D Maximum digging depth.....	14 ft. 3 in. (4.34 m)	14 ft. 5 in. (4.39 m)	17 ft. 11 in. (5.46 m)
E Digging depth (SAE):			
(1) 2-ft. (610 mm) flat bottom.....	14 ft. 2 in. (4.32 m)	14 ft. 4 in. (4.37 m)	17 ft. 10 in. (5.44 m)
(2) 8-ft. (2440 mm) flat bottom.....	13 ft. (3.96 m)	13 ft. 4 in. (4.06 m)	17 ft. (5.18 m)
F Ground clearance, minimum.....	12 in. (305 mm)	12 in. (305 mm)	12 in. (305 mm)
G Bucket rotation.....	190 degrees	190 degrees	190 degrees
H Transport height.....	11 ft. 3 in. (3.43 m)	11 ft. 2 in. (3.40 m)	11 ft. 2 in. (3.40 m)
I Overall length, transport.....	23 ft. 3 in. (7.09 m)	23 ft. 3 in. (7.09 m)	23 ft. 3 in. (7.09 m)
J 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)
K Stabilizer spread – operating.....	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)	10 ft. 2 in. (3.10 m)
L 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)
M Width over tires.....	81.7 in. (2.07 m)	81.7 in. (2.07 m)	81.7 in. (2.07 m)

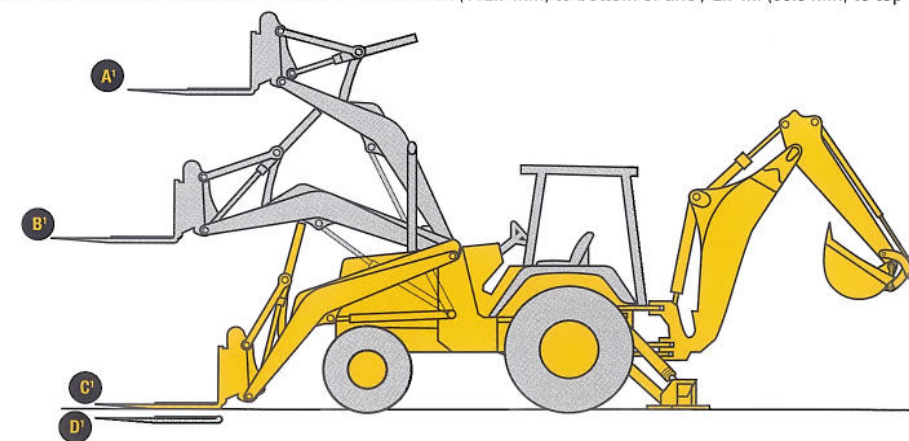
*Backhoe specifications are with 24 in. x 6.5 cu. ft. (610 mm x 0.18 m³) bucket.

LOADER PERFORMANCE WITH BUCKET OPTIONS

	1.00 cu. yd. (0.76 m³) Heavy-Duty Long Lip	1.12 cu. yd. (0.86 m³) Heavy-Duty Long Lip	1.25 cu. yd. (0.96 m³) Heavy-Duty Long Lip	1.12 cu. yd. (0.86 m³) Multipurpose
Operator control.....	single lever	single lever	single lever	single lever
Breakout force.....	8,100 lb. (36.0 kN)	7,950 lb. (35.4 kN)	7,603 lb. (33.8 kN)	7,125 lb. (31.7 kN)
Lifting capacity, full height.....	5,800 lb. (2631 kg)	5,600 lb. (2540 kg)	5,558 lb. (2523 kg)	5,100 lb. (2313 kg)
a Height to bucket hinge pin, maximum.....	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)	11 ft. 1 in. (3.38 m)
b Dump clearance, bucket at 45 degrees.....	8 ft. 10 in. (2.69 m)	8 ft. 10 in. (2.69 m)	8 ft. 2 in. (2.59 m)	8 ft. 6 in. (2.59 m)
c Bucket dump angle, maximum.....	45 degrees	45 degrees	45 degrees	45 degrees
d Reach at full height, bucket at 45 degrees.....	30.9 in. (785 mm)	30.2 in. (767 mm)	31.9 in. (809 mm)	32.2 in. (818 mm)
e Rollback angle at ground level.....	40 degrees	40 degrees	40 degrees	40 degrees
f Digging depth below ground, bucket level.....	6.3 in. (160 mm)	6.9 in. (175 mm)	5.8 in. (147 mm)	7.8 in. (197 mm)
Raising time to full height.....	5.2 sec.	5.2 sec.	5.2 sec.	5.2 sec.
Bucket dump time.....	1.1 sec.	1.1 sec.	1.1 sec.	1.1 sec.
Bucket lowering time (power down).....	1.9 sec.	1.9 sec.	1.9 sec.	1.9 sec.

LIFT CAPACITY WITH QUICK COUPLER/FORKS

A' Maximum height.....	3,685 lb. (1673 kg)
B' Maximum reach.....	5,570 lb. (2528 kg)
C' At ground line.....	7,310 lb. (3319 kg)
D' Below ground line.....	4.4 in. (112.7 mm) to bottom of tine / 2.7 in. (68.3 mm) to top of tine



	310E	310E	310E
ENGINE			
John Deere Model 4045D - 4.5 liter, 71 SAE net hp naturally aspirated, isolation mounted	●		
John Deere Model 4045T - 4.5 liter, 71 SAE net hp altitude-compensating turbocharged, isolation mounted	■		
Vertical spin-on engine oil filter	●		
Spin-on John Deere fuel filter with water separator	●		
Oil-to-water engine oil cooler	●		
Antifreeze, -34°F (-37°C)	●		
Coolant recovery tank	●		
Serpentine belt with automatic belt tensioner	●		
Sucker-type cooling fan	●		
Enclosed safety fan guard	●		
Dual element dry-type air cleaner with evacuator valve and prescreener	●		
Muffler, underhood with curved-end exhaust stack	●		
Electric ether starting aid	■		
Engine coolant heater, 1,000 watts	■		
POWER TRAIN			
Transmission with powershift reverser and torque converter	●		
Fully synchronized four forward, four reverse speeds / Isolation mounted to mainframe	●		
Transmission oil cooler	●		
Vertical spin-on transmission filter	●		
Electric forward-neutral-reverse control lever with neutral safety switch interlock	●		
Electric clutch cutoff on gearshift and loader levers	●		
Differential lock, electric foot-actuated	●		
Planetary final drives	●		
Hydraulic service brakes	●		
Inboard, wet multi-disc, self adjusting and self equalizing / Conform to SAE J1473	●		
Parking/emergency brake with electric switch control	●		
Spring applied, hydraulically released wet multi-disc / Independent of service brakes / Conform to SAE J1473	●		
Hydrostatic power steering with emergency manual mode	●		
Non-powered front axle	●		
Mechanical-front-wheel-drive	●		
Electric on/off control / Drive-shaft guard / Sealed axle	●		
Tires			
11L-15 F3 front tires	●		
11L-16 F3 front tires	■		
12-16.5 traction front tires	●		
16.9-24 R4 rear tires	■		
17.5L-24 R4 rear tires	●		
19.5L-24 R4 rear tires	■		
Rear wheel spacers for use with chains	●		
BACKHOE			
Backhoe with standard dipperstick, 14 ft. 3 in. digging depth	●		
Backhoe controls			
Two-lever (Deere) controls	●		
Three-lever (Case) controls	■		
Four-lever (Ford) controls	■		
SAE excavator two-lever controls	■		
Backhoe transport lock lever	●		
Swing lock pin stored in operator's station	●		
Stabilizer valve with two-direction anti-drift valves	●		
Pivoting stabilizers			
With dirt pads	●		
With reversible pads	■		
Stabilizer cylinder guards	■		
Backhoe buckets			
Less bucket, with bucket pins	●		
Standard duty with lift loops	■		
Heavy duty with lift loops	■		
Backhoe bucket coupler for "C" and "D" series John Deere buckets, Case buckets, and Cat buckets	●		
Extendable dipperstick, 3 ft. 6 in. extension	●		
Auxiliary backhoe valve for swingers, thumbs, etc.	■		
Auxiliary backhoe valve for hammers, compactors	■		
Auxiliary backhoe plumbing for hammers, compactors	■		
SAE controlled load lowering device valves	■		
LOADER			
Hydraulic self leveling	●		
Return-to-dig feature	●		
Single-lever control with electric clutch cutoff switch	●		
Bucket-level indicator	●		
Loader boom service lock	●		
Auxiliary loader hydraulics with two-lever control	●		
Loader front coupler	■		
Loader buckets			
Less bucket, with bucket pins	●		
Heavy-duty bucket with lift loops, prepunched for bolt-on cutting edge	■		
Heavy-duty buckets with bolt-on cutting edge, skid plates, and lift loops	■		
Multipurpose buckets with bolt-on cutting edge, skid plates, and lift loops	■		
HYDRAULIC SYSTEM			
28 gpm (106 L/min.) gear pump, open center system	●		
Independent hydraulic reservoir	●		
Hydraulic oil cooler	●		
"O"-ring face seal connectors	●		
10-micron vertical spin-on filter	●		
ELECTRICAL			
12-volt system	●		
65-amp alternator	●		
Single battery with 150-min. reserve capacity and 750 CCA	●		
Dual batteries with 300-min. reserve capacity and 1,500 CCA	■		
Positive terminal battery cover	●		
Blade-type multi-fused circuits	●		
By-pass start safety cover on starter	■		
LIGHTS			
Two front halogen driving/work lights, 32,500 candlepower each	●		
Two additional front halogen work lights, 32,500 candlepower each	■		
Two rear halogen work lights, 32,500 candlepower each	●		
Two front and two rear turn signal/flashing	●		
Two rear stop and tail	●		
Two rear reflectors	●		
Rotating beacon	■		
OPERATOR'S STATION			
Modular-design ROPS/FOPS canopy with molded roof	●		
Isolation mounted / Conform to SAE J1040	●		
Left and right front access	■		
Slip-resistant steps and ergonomically located handholds	■		
Coat hook	■		
Built-in beverage and Thermos® bottle holders	●		
Built-in Operator's Manual storage compartment with manual	●		
Interior rearview mirror	●		
Outside rearview mirrors	■		
Hand throttle with fuel economy setting at 2,100 rpm	■		
Suspended foot throttle	■		
Horn	●		
Key start switch with electric fuel shutoff	●		
Hourmeter, illuminated electric	●		
Tachometer/hourmeter, illuminated electric	■		
Fuel gauge, illuminated electric	■		
Gauge package, illuminated electric	■		
Engine coolant temperature / Transmission oil temperature / Alternator volts / Fuel gauge	■		
Monitor system with audible and visual warning	●		
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	●		
Seats and seat belts			
Non-suspension vinyl swivel seat without armrests	●		
Suspension vinyl swivel seat with armrests and lumbar support	■		
Suspension fabric swivel seat with armrests and lumbar support	■		
Air suspension vinyl swivel seat with armrests and lumbar support	■		
Air suspension fabric swivel seat with armrests and lumbar support	■		
2-in. seat belt with retractors	●		
3-in. seat belt with retractors	■		
Cab			
Headliner	●		
Dome light	●		
Left cab door	●		
Tinted safety glass	●		
Two front and one rear windshield wipers	●		
Front windshield washer	■		
Fresh air intake heater/defroster/pressurizer 40,000 Btu/hr. (11.7 kW) heater	●		
Air conditioning	■		
26,000 Btu/hr. (7.6 kW) output / CFC free R134a refrigerant	■		
65-amp alternator	●		
95-amp alternator	■		
AM/FM/weatherband radio	■		
Ride control	■		
OVERALL VEHICLE			
One-piece unitized construction mainframe	●		
Vehicle tie-downs, two front and one rear	●		
Remote grease bank for front axle	●		
Rigid mounted front bumper	●		
Front counterweights			
400 lb. (181 kg)	■		
650 lb. (295 kg)	■		
900 lb. (408 kg)	■		
1,150 lb. (522 kg)	■		
1,400 lb. (635 kg)	■		
Fuel tank, 36 gal. (136 L), ground level fueling	●		
Engine side shields with sliding service access door	●		
Front grille screen	■		
Vandal protection for instrument panel, engine access doors, and fuel tank	●		
Reverse warning alarm	●		
Switchable to 97 dB(A) or 111 dB(A)	●		
Dent-resistant rear fenders	■		
Rear fender extensions	■		
Front fenders*	■		
SMV emblem	■		
Rental decal kit	■		
Special color paint*	■		
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 5,000 feet (1500 m) altitude. With optional altitude compensating turbocharger 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 17.5L-24, 10 PR R4 rear tires, 11L-15, 8 PR F3 front tires, 1.00 cu. yd. (0.76 m³) loader bucket, 24 in. x 6.5 cu. ft. (610 mm x 0.18 m³) backhoe bucket.

