

644 X

Wheel Loader



JOHN DEERE



ON THE CUTTING EDGE.

The multipurpose 644 X-Tier Wheel Loader is designed and purpose built to take it on and go beyond. With its combined innovative E-Drive and PowerShift™ transmission system that delivers strong pushing power and fast ramp-climbing ability, tasks ranging from loading trucks to maintaining stockpiles to heaping hoppers can be accomplished with efficiency and ease. And this impressive iron runs quiet, too. The 644 X-Tier is packed to the max with the state-of-the-art technology and innovative features that can help take your operation to new heights of productivity and performance.

Power without compromise

Choose between variable and constant engine speeds in normal and performance modes. Drivetrain and hydraulic functions are powerful, responsive, and quick, to deliver exceptional productivity in the most demanding applications.

E-Drive innovation

Innovative E-Drive transmission system delivers premium performance and efficiency. System includes an engine-driven generator plus an inverter to control the electric motor that drives a simplified PowerShift transmission.

Move more with less

Efficiency is outstanding, with up to 18-percent more tons moved per gallon of fuel burned than top competitors.*

*As measured in a closed-circuit test conducted in September 2020 against similarly equipped top competitors. All machines were operated at maximum productivity in controlled conditions.

Material matters

SmartWeigh™ option features dynamic weighing technology that allows operators to weigh without interrupting workflow and removes the need to lower and reraise the boom after tipoff. Shared through the onboard monitor, SmartWeigh is easy to calibrate and effortlessly integrates with the John Deere Operations Center™ so you can track and visualize payload data from almost anywhere. Available as a factory-installed or field-kit option, you can also try SmartWeigh at a low cost for 250 machine hours.

VISION AND DETECTION SYSTEM OFFERINGS

Active jobsites present many operational challenges, including multiple machines, crew members, and bystanders. The John Deere Advanced Vision System (AVS) and SmartDetect™ can help enhance operator awareness to confidently navigate busy work areas:

- Optional **AVS** includes two digital cameras mounted on the rearview-mirror platforms that integrate with the rearview (backup) camera for a single display on a dedicated in-cab monitor.
- Paired with a high-resolution camera and a dedicated display, optional **Advanced Rear Object-Detection System (ARODS)** utilizes a radar system that provides audible alerts when objects are detected at the rear of the machine. ARODS helps operators visualize the loader's reversal path based on its articulation.
- Available as an easily installed field kit, optional **SmartDetect** alerts operators of objects entering the machine's projected travel path, emitting sound and visual alerts inside the cab as well as an audible alarm to detected bystanders. SmartDetect requires AVS, ARODS, and a G5 display as well as software activation.
- Building on SmartDetect capabilities, optional **SmartDetect™ Digital** is equipped with advanced cameras that integrate with a dedicated G5 display to provide elevated operator and bystander alerts. Easily accessed through the user-friendly John Deere Operations Center mobile app, the system notifies supervisors of near-miss events with corresponding video. Weekly reports of digital usage and jobsite events within a heat-map summary are also available.

FIND YOUR FIT



LEADING EDGE

Premium edge with innovative technology



EXCEPTIONAL PERFORMANCE

Advanced features and performance



RUGGED AND RELIABLE

Proven capabilities and value

Smooth operator

Purpose-built PowerShift transmission provides smooth control through four forward speed ranges. Direction changes are accomplished by the electric motor, completely eliminating shifting in some truck-loading applications.



AVS ON THE G5 DISPLAY



SMARTDETECT ON THE G5 DISPLAY

Make a good impression

Running wide open at 1,600 rpm, the in-cab noise rating is just 70 dBA. Reduced exterior noise makes the 644 X-Tier a great choice when working in residential areas.

Level up

AutoLevel enables near-perfect parallelism throughout the boom-raise-and-lower cycle, letting operators set their desired attachment angle to within \pm two degrees.

Field proven

John Deere E-Drive technology in our 644 and 944 Wheel Loaders has collectively logged over three million field hours — a testament to the durability and performance of our transmission components and systems.

The coast is clear

Coast-control feature slows the loader down without the operator having to touch a pedal, helping extend service-brake wear life.

Creature comforts

Spacious cab boasts ample legroom and features ergonomically placed controls, foot pedals, and sealed-switch module. Seat-mounted hydraulic controls include two programmable multifunction buttons and intuitive electrohydraulic (EH) controls.

Integrated controls

With the capacity to control up to six functions on the single hydraulic joystick, cycle times and productivity when using hydraulic attachments are improved.

The bucket list

Enhanced-performance buckets with integrated spill guards, curved side cutters, and impressive rollback maximize bucket-fill performance and material retention. Choose from hi-vis and JRB-style couplers to boost fleet versatility and machine utilization.





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POWERFUL INNOVATIVE



644 X-TIER WHEEL LOADER



Time to take sides

All daily service points including fuel are conveniently grouped on the left side of the machine at ground level, for easy access. Hinged doors enable wide-open access to the engine, cooling system, and other components.

Connected machines

John Deere construction equipment comes with in-base connectivity — free from subscriptions or annual renewals. Analyze critical machine data, track utilization, review diagnostic alerts, and more from **the John Deere Operations Center**. The Operations Center also enables John Deere Connected Support™, which uses data from thousands of connected machines to proactively address issues before they arise. With your approval, your dealer can also remotely monitor machine health, diagnose problems, and even update machine software without a trip to the jobsite.*

*Availability varies by region and product. Options not available in every country.

644 X-TIER WHEEL LOADER SPECIFICATIONS

While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

Engine			
Manufacturer and Model	John Deere PowerTech™ PSS 6068	Net Torque Rise	36%
Non-Road Emission Standard	EPA Final Tier 4/EU Stage V	Fuel System (electronically controlled)	High-pressure common rail
Cylinders	6	Lubrication	Full-flow spin-on filter and integral cooler
Valves Per Cylinder	4	Aspiration	Turbocharged, charge air cooled
Displacement	6.8 L (415 cu. in.)	Air Cleaner	Under-hood, dual-element dry type, restriction indicator in cab monitor for service
Net Peak Power (ISO 9249)	172 kW (231 hp) at 1,500 rpm		
Gross Peak Power (ISO 9249)	178 kW (238 hp) at 1,500 rpm		
Net Peak Torque (ISO 9249)	1095 Nm (808 lb.-ft.) at 1,500 rpm		
Cooling			
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers		
Electrical			
Electrical System	24 volt with 140-amp alternator		
Batteries (2 – 12 volt)	950 CCA (each)		
Transmission System			
Type	Countershaft-type PowerShift™		
Motor/Generator	Brushless A/C		
Inverter	Solid-state power		
Shift Control	Electronically modulated, adaptive, load and speed dependent		
Operator Interface	Steering column or joystick-mounted F-N-R and gear-select lever; Quick-Shift button on hydraulic lever		
Shift Modes	Manual/auto (1st–D or 2nd–D); Quick-Shift button with 2 selectable modes: kick-down or kick-up/down; and 3 adjustable clutch cutoff settings		
	Standard 3-Speed Hybrid-Electric Drive (E-Drive)		
Maximum Travel Speeds (with 23.5 R 25 tires)	Forward	Reverse	
Range 1	7.5 km/h (4.5 mph)	7.5 km/h (4.5 mph)	
Range 2	14.0 km/h (8.7 mph)	14.0 km/h (8.7 mph)	
Range 3	25.0 km/h (15.5 mph)	25.0 km/h (15.5 mph)	
Range 4	40.0 km/h (24.9 mph)	40.0 km/h (24.9 mph)	
Axles/Brakes			
Final Drives	Heavy-duty inboard-mounted planetary		
Differentials	Hydraulic locking front with conventional rear – standard; dual locking front and rear – optional		
Rear Axle Oscillation, Stop to Stop (with 23.5 R 25 tires)	26 deg. (13 deg. each direction)		
Brakes (conform to ISO 3450)			
Service	Hydraulically actuated, inboard sun-shaft mounted, oil cooled, self adjusting, single disc		
Parking	Automatic spring applied, hydraulically released, transmission integrated, oil cooled, multi disc		
Tires/Wheels			
(see page 9 for complete tire adjustments)			
	Tread Width	Width Over Tires	
Michelin 23.5 R 25, 1 Star L-3	2170 mm (85.4 in.)	2875 mm (113.2 in.)	
Serviceability			
Refill Capacities		Refill Capacities (continued)	
Fuel Tank (with lockable cap)	350 L (92.6 gal.)	Engine Oil With Vertical Spin-On Filter	27 L (28.5 qt.)
Diesel Exhaust Fluid (DEF)	18.5 L (19.5 qt.)	Transmission Reservoir With Vertical Filter	32 L (34 qt.)
Cooling System	63 L (67 qt.)	Axle Oil (front and rear, each)	22 L (23 qt.)
Inverter	5.7 L (6.0 qt.)	Hydraulic Reservoir and Filter	103.4 L (27.3 gal.)
Hydraulic System/Steering			
Pump (loader and steering)	Variable-displacement, axial-piston pump; closed-center, pressure-compensating system		
Maximum Rated Flow at 6895 kPa (1,000 psi) and 1,939 rpm	265 L/m (70 gpm)		
System Relief Pressure (loader and steering)	25 166 kPa (3,650 psi)		
Loader Controls	2-function valve; joystick control or fingertip controls; hydraulic-function enable/disable; optional 3rd- and 4th-function valve with auxiliary lever		
Steering (conforms to ISO 5010)			
Type	Power, fully hydraulic		
Articulation Angle	80-deg. arc (40 deg. each direction)		
Turning Radius (measured to centerline of outside tire)	5.64 m (18 ft. 6 in.)		

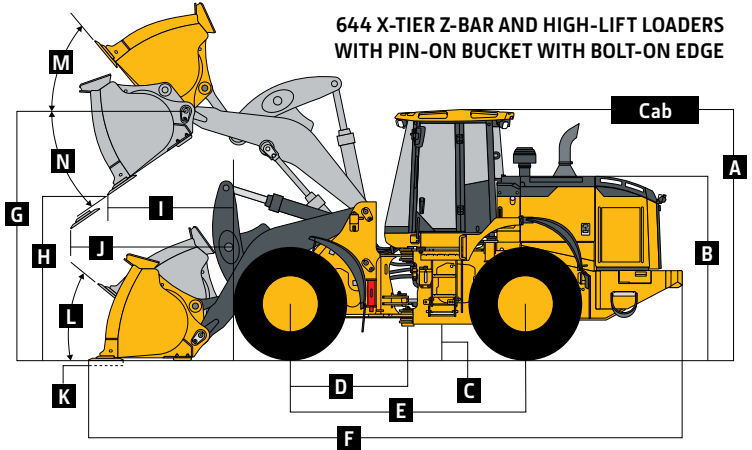
644 X-TIER WHEEL LOADER SPECIFICATIONS

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Hydraulic System/Steering (continued)		644 X-TIER Z-BAR / HIGH-LIFT	
Hydraulic Cycle Times		Z-Bar	High-Lift
Raise		6.2 sec.	6.2 sec.
Dump		1.7 sec.	1.7 sec.
Lower (power down)		3.8 sec.	4.0 sec.
Total		11.7 sec.	11.9 sec.
Bucket Capacity Range			
Bucket Type			
Pin-On		3.2–3.6 m ³ (4.25–4.75 cu. yd.)	
Coupler		3.1–3.6 m ³ (4.0–4.75 cu. yd.)	
Dimensions and Specifications With Pin-On Bucket With Bolt-On Edge			



	Z-Bar	Z-Bar	High-Lift
Dimensions With Bucket With Bolt-On Edge (illustration above right)	3.2-m ³ (4.25 cu. yd.) <i>enhanced performance</i>	3.4-m ³ (4.5 cu. yd.) <i>enhanced performance</i>	3.2-m ³ (4.25 cu. yd.) <i>enhanced performance</i>
A Height to Top of Cab	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)
B Hood Height	2.51 m (8 ft. 3 in.)	2.51 m (8 ft. 3 in.)	2.51 m (8 ft. 3 in.)
C Ground Clearance	386 mm (15.2 in.)	386 mm (15.2 in.)	386 mm (15.2 in.)
D Length From Centerline to Front Axle	1.66 m (5 ft. 5 in.)	1.66 m (5 ft. 5 in.)	1.66 m (5 ft. 5 in.)
E Wheelbase	3.31 m (10 ft. 10 in.)	3.31 m (10 ft. 10 in.)	3.31 m (10 ft. 10 in.)
F Overall Length, Bucket on Ground	8.26 m (27 ft. 1 in.)	8.31 m (27 ft. 3 in.)	8.72 m (28 ft. 7 in.)
G Height to Hinge Pin, Fully Raised	4.09 m (13 ft. 5 in.)	4.09 m (13 ft. 5 in.)	4.50 m (14 ft. 9 in.)
H Dump Clearance, 45 deg., Full Height	2.87 m (9 ft. 5 in.)	2.83 m (9 ft. 4 in.)	3.28 m (10 ft. 9 in.)
I Reach, 45-deg. Dump, Full Height	1.06 m (3 ft. 6 in.)	1.09 m (3 ft. 7 in.)	1.17 m (3 ft. 10 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	1.61 m (5 ft. 3 in.)	1.62 m (5 ft. 4 in.)	2.02 m (6 ft. 8 in.)
K Maximum Digging Depth	125 mm (5 in.)	129 mm (5 in.)	262 mm (10 in.)
L Maximum Rollback at Ground Level	45 deg.	45 deg.	45 deg.
M Maximum Rollback, Boom Fully Raised	59 deg.	59 deg.	60 deg.
N Maximum Bucket Dump Angle, Fully Raised	48 deg.	48 deg.	45 deg.
Loader Clearance Circle, Bucket Carry Position	13.0 m (42 ft. 8 in.)	13.0 m (42 ft. 9 in.)	13.3 m (43 ft. 9 in.)
Specifications With Bucket			
Capacity, Heaped	3.3 m ³ (4.25 cu. yd.)	3.4 m ³ (4.50 cu. yd.)	3.3 m ³ (4.26 cu. yd.)
Capacity, Struck	2.7 m ³ (3.47 cu. yd.)	2.8 m ³ (3.68 cu. yd.)	2.7 m ³ (3.48 cu. yd.)
Bucket Weight With Bolt-On Cutting Edge	1844 kg (4,066 lb.)	1880 kg (4,145 lb.)	1695 kg (3,737 lb.)
Bucket Width	3.04 m (10 ft. 0 in.)	3.04 m (10 ft. 0 in.)	3.04 m (10 ft. 0 in.)
Breakout Force	15 574 kg (34,334 lb.)	15 002 kg (33,074 lb.)	15 568 kg (34,321 lb.)
Tipping Load, Straight, No Tire Deflection	14 548 kg (32,072 lb.)	14 436 kg (31,827 lb.)	12 403 kg (27,344 lb.)
Tipping Load, Straight, With Tire Deflection	13 632 kg (30,053 lb.)	13 524 kg (29,815 lb.)	11 700 kg (25,794 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	12 667 kg (27,925 lb.)	12 564 kg (27,698 lb.)	10 723 kg (23,639 lb.)
Tipping Load, 40-deg. Full Turn, With Tire Deflection	11 541 kg (25,444 lb.)	11 439 kg (25,219 lb.)	9837 kg (21,687 lb.)
Rated Operating Load, 50% Full-Turn	6333 kg (13,963 lb.)	6282 kg (13,849 lb.)	5361 kg (11,820 lb.)
Tipping Load No Tire Deflection (conforms to ISO 14397-1)*			
Rated Operating Load, 50% Full-Turn	5771 kg (12,722 lb.)	5720 kg (12,609 lb.)	4919 kg (10,843 lb.)
Tipping Load, With Tire Deflection (conforms to ISO 14397-1)*			
Operating Weight	18 856 kg (41,571 lb.)	18 892 kg (41,649 lb.)	19 218 kg (42,369 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PSS 6068 (EPA Final Tier 4/EU Stage V) engine, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.

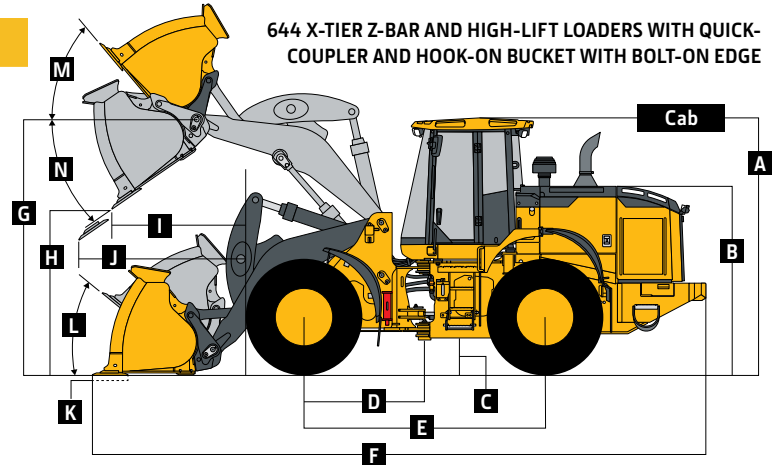
*Rated operating capacity based on Deere attachments only.

644 X-TIER

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Dimensions and Specifications With Hi-Vis Coupler and Hook-On Bucket With Bolt-On Edge

644 X-TIER Z-BAR / HIGH-LIFT



644 X-TIER Z-BAR AND HIGH-LIFT LOADERS WITH QUICK-COUPLER AND HOOK-ON BUCKET WITH BOLT-ON EDGE

	Z-Bar	Z-Bar	High-Lift	High-Lift
Dimensions With Bucket With Bolt-On Edge (illustration above right)	3.1-m ³ (4.0 cu. yd.) enhanced performance	3.2-m ³ (4.25 cu. yd.) enhanced performance	3.1-m ³ (4.0 cu. yd.) enhanced performance	3.2-m ³ (4.25 cu. yd.) enhanced performance
A Height to Top of Cab	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)
B Hood Height	2.51 m (8 ft. 3 in.)	2.51 m (8 ft. 3 in.)	2.51 m (8 ft. 3 in.)	2.51 m (8 ft. 3 in.)
C Ground Clearance	386 mm (15.2 in.)	386 mm (15.2 in.)	386 mm (15.2 in.)	386 mm (15.2 in.)
D Length From Centerline to Front Axle	1.66 m (5 ft. 5 in.)	1.66 m (5 ft. 5 in.)	1.66 m (5 ft. 5 in.)	1.66 m (5 ft. 5 in.)
E Wheelbase	3.31 m (10 ft. 10 in.)	3.31 m (10 ft. 10 in.)	3.31 m (10 ft. 10 in.)	3.31 m (10 ft. 10 in.)
F Overall Length, Bucket on Ground	8.31 m (27 ft. 3 in.)	8.35 m (27 ft. 5 in.)	8.77 m (28 ft. 9 in.)	8.82 m (28 ft. 11 in.)
G Height to Hinge Pin, Fully Raised	4.09 m (13 ft. 5 in.)	4.09 m (13 ft. 5 in.)	4.50 m (14 ft. 9 in.)	4.50 m (14 ft. 9 in.)
H Dump Clearance, 45 deg., Full Height	2.84 m (9 ft. 4 in.)	2.81 m (9 ft. 2 in.)	3.25 m (10 ft. 8 in.)	3.22 m (10 ft. 7 in.)
I Reach, 45-deg. Dump, Full Height	1.10 m (3 ft. 7 in.)	1.13 m (3 ft. 8 in.)	1.21 m (4 ft. 0 in.)	1.24 m (4 ft. 1 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	1.63 m (5 ft. 4 in.)	1.64 m (5 ft. 5 in.)	2.05 m (6 ft. 9 in.)	2.06 m (6 ft. 9 in.)
K Maximum Digging Depth	125 mm (5 in.)	129 mm (5 in.)	262 mm (10 in.)	266 mm (10 in.)
L Maximum Rollback at Ground Level	45 deg.	45 deg.	45 deg.	45 deg.
M Maximum Rollback, Boom Fully Raised	59 deg.	59 deg.	60 deg.	60 deg.
N Maximum Bucket Dump Angle, Fully Raised	48 deg.	48 deg.	45 deg.	45 deg.
Loader Clearance Circle, Bucket Carry Position	13.0 m (42 ft. 9 in.)	13.0 m (42 ft. 9 in.)	13.5 m (44 ft. 3 in.)	13.5 m (44 ft. 4 in.)

Specifications With Bucket

Capacity, Heaped	3.30 m ³ (4.25 cu. yd.)	3.40 m ³ (4.50 cu. yd.)	3.07 m ³ (4.02 cu. yd.)	3.26 m ³ (4.26 cu. yd.)
Capacity, Struck	2.70 m ³ (3.47 cu. yd.)	2.80 m ³ (3.68 cu. yd.)	2.51 m ³ (3.28 cu. yd.)	2.66 m ³ (3.48 cu. yd.)
Bucket Weight With Bolt-On Cutting Edge	1844 kg (4,066 lb.)	1880 kg (4,145 lb.)	1639 kg (3,613 lb.)	1695 kg (3,737 lb.)
Bucket Width	3.04 m (10 ft. 0 in.)	3.04 m (10 ft. 0 in.)	3.04 m (10 ft. 0 in.)	3.04 m (10 ft. 0 in.)
Breakout Force	14 907 kg (32,865 lb.)	14 419 kg (31,789 lb.)	14 901 kg (32,852 lb.)	14 414 kg (31,778 lb.)
Tipping Load, Straight, No Tire Deflection	13 801 kg (30,425 lb.)	13 697 kg (30,196 lb.)	11 747 kg (25,898 lb.)	11 656 kg (25,698 lb.)
Tipping Load, Straight, With Tire Deflection	12 924 kg (28,493 lb.)	12 819 kg (28,261 lb.)	11 067 kg (24,399 lb.)	10 977 kg (24,200 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	11 967 kg (26,383 lb.)	11 870 kg (26,168 lb.)	10 104 kg (22,275 lb.)	10 018 kg (22,085 lb.)
Tipping Load, 40-deg. Full Turn, With Tire Deflection	10 884 kg (23,995 lb.)	10 782 kg (23,770 lb.)	9246 kg (20,384 lb.)	9156 kg (20,186 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load, No Tire Deflection (conforms to ISO 14397-1)*	5984 kg (13,192 lb.)	5935 kg (13,084 lb.)	5052 kg (11,138 lb.)	5009 kg (11,042 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load, With Tire Deflection (conforms to ISO 14397-1)*	5442 kg (11,998 lb.)	5391 kg (11,885 lb.)	4623 kg (10,192 lb.)	4578 kg (10,093 lb.)
Operating Weight	19 281 kg (42,507 lb.)	19 338 kg (42,632 lb.)	19 643 kg (43,305 lb.)	19 700 kg (43,430 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PSS 6068 (EPA Final Tier 4/EU Stage V) engine, ROPS cab, rear cast bumper counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.

*Rated operating capacity based on Deere attachments only.

Dimensions and Specifications With Hi-Vis Coupler and Construction Forks

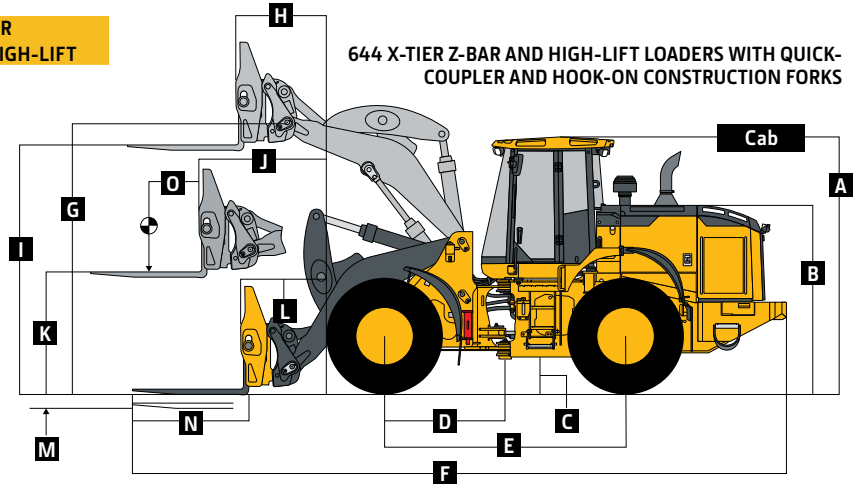
	Z-Bar	Z-Bar	High-Lift	High-Lift
Dimensions With Forks (illustration at top of next page)	1.52-m (60 in.) tine length	1.83-m (72 in.) tine length	1.52-m (60 in.) tine length	1.83-m (72 in.) tine length
A Height to Top of Cab	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)	3.45 m (11 ft. 4 in.)
B Hood Height	2.51 m (8 ft. 3 in.)	2.51 m (8 ft. 3 in.)	2.51 m (8 ft. 3 in.)	2.51 m (8 ft. 3 in.)
C Ground Clearance	386 mm (15.2 in.)	386 mm (15.2 in.)	386 mm (15.2 in.)	386 mm (15.2 in.)
D Length From Centerline to Front Axle	1.66 m (5 ft. 5 in.)	1.66 m (5 ft. 5 in.)	1.66 m (5 ft. 5 in.)	1.66 m (5 ft. 5 in.)
E Wheelbase	3.31 m (10 ft. 10 in.)	3.31 m (10 ft. 10 in.)	3.31 m (10 ft. 10 in.)	3.31 m (10 ft. 10 in.)
F Overall Length, Forks on Ground	9.01 m (29 ft. 7 in.)	9.32 m (30 ft. 7 in.)	9.41 m (30 ft. 10 in.)	9.71 m (31 ft. 10 in.)
G Height to Hinge Pin, Fully Raised	4.09 m (13 ft. 5 in.)	4.09 m (13 ft. 5 in.)	4.50 m (14 ft. 9 in.)	4.50 m (14 ft. 9 in.)
H Reach, Fully Raised	820 mm (32 in.)	820 mm (32 in.)	930 mm (3 ft. 1 in.)	930 mm (3 ft. 1 in.)
I Fork Height, Fully Raised	3.78 m (12 ft. 5 in.)	3.78 m (12 ft. 5 in.)	4.19 m (13 ft. 9 in.)	4.19 m (13 ft. 9 in.)
J Maximum Reach, Fork Level	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)	2.05 m (6 ft. 9 in.)	2.05 m (6 ft. 9 in.)
K Fork Height, Maximum Reach	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)	1.74 m (5 ft. 9 in.)	1.74 m (5 ft. 9 in.)
L Reach, Ground Level	1.16 m (3 ft. 10 in.)	1.16 m (3 ft. 10 in.)	1.56 m (5 ft. 1 in.)	1.56 m (5 ft. 1 in.)
M Depth Below Ground	90 mm (3 in.)	90 mm (3 in.)	220 mm (9 in.)	220 mm (9 in.)
N Tine Length	1.52 m (60 in.)	1.83 m (72 in.)	1.52 m (60 in.)	1.83 m (72 in.)
O Load Position, 50% Tine Length	760 mm (30 in.)	910 mm (36 in.)	760 mm (30 in.)	910 mm (36 in.)

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644 X-TIER

Dimensions and Specifications With Hi-Vis Coupler and Construction Forks (continued)

644 X-TIER Z-BAR / HIGH-LIFT



644 X-TIER Z-BAR AND HIGH-LIFT LOADERS WITH QUICK-COUPLER AND HOOK-ON CONSTRUCTION FORKS

	Z-Bar	Z-Bar	High-Lift	High-Lift
Specifications With Forks (illustration above right)				
Tipping Load, Straight, No Tire Deflection	9646 kg (21,267 lb.)	9146 kg (20,164 lb.)	8630 kg (19,026 lb.)	8213 kg (18,106 lb.)
Tipping Load, Straight, With Tire Deflection	9366 kg (20,648 lb.)	8886 kg (19,590 lb.)	8382 kg (18,479 lb.)	7983 kg (17,599 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	8397 kg (18,513 lb.)	7953 kg (17,533 lb.)	7461 kg (16,448 lb.)	7090 kg (15,632 lb.)
Tipping Load, 40-deg. Full Turn, With Tire Deflection	8028 kg (17,699 lb.)	7608 kg (16,773 lb.)	7125 kg (15,708 lb.)	6777 kg (14,941 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load, With Tire Deflection (conforms to ISO 14397-1 and SAE J1197)*	4014 kg (8,849 lb.)	3804 kg (8,386 lb.)	3563 kg (7,854 lb.)	3389 kg (7,470 lb.)
Rated Operating Load, Rough Terrain, 60% Full-Turn Tipping Load, With Tire Deflection (conforms to EN474-3)*	4817 kg (10,619 lb.)	4565 kg (10,064 lb.)	4275 kg (9,425 lb.)	4066 kg (8,964 lb.)
Rated Operating Load, Firm and Level Ground, 80% Full-Turn Tipping Load, With Tire Deflection (conforms to EN474-3)*	6422 kg (14,159 lb.)	6086 kg (13,418 lb.)	5700 kg (12,566 lb.)	5422 kg (11,953 lb.)
Operating Weight	18 750 kg (41,337 lb.)	18 810 kg (41,470 lb.)	19 112 kg (42,134 lb.)	19 172 kg (42,267 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PSS 6068 (EPA Final Tier 4/EU Stage V) engine, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.

*Rated operating capacity based on Deere attachments only.

Adjustments to Operating Weights and Tipping Loads With Buckets

Adjustments to operating weights, tipping loads, and tires are based on Z-Bar machine with pin-on 3.2-m³ (4.25 cu. yd.) enhanced-performance bucket with bolt-on cutting edge, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator*

Add (+) or deduct (–) kg (lb.) as indicated		Tipping Load,		Tipping Load,		Tread Width		Width Over Tires		Vertical Height	
for loaders with 3-piece rims		Straight		40-deg. Full Turn		0 mm (0 in.)		0 mm (0 in.)		0 mm (0 in.)	
Michelin 23.5 R 25, 1 Star L-3	Operating Weight 0 kg (0 lb.)	0 kg (0 lb.)		0 kg (0 lb.)		0 mm (0 in.)		0 mm (0 in.)		0 mm (0 in.)	
Bridgestone 23.5 R 25, 1 Star L-3	+101 kg (+223 lb.)	+771 kg (+170 lb.)		+68 kg (+150 lb.)		–3 mm (–0.1 in.)		+15 mm (+0.6 in.)		+39 mm (+1.5 in.)	
Titan 23.5-25, 20 PR L-3	–271 kg (–597 lb.)	–207 kg (–456 lb.)		–183 kg (–402 lb.)		–3 mm (–0.1 in.)		+33 mm (+1.3 in.)		+29 mm (+1.1 in.)	
Titan 725/70-25 16-Ply L-4T (Logger Style) ^{§§}	+359 kg (+792 lb.)	+285 kg (+629 lb.)		+252 kg (+555 lb.)		+34 mm (+1.4 in.)		+119 mm (+4.7 in.)		+78 mm (+3.1 in.)	
Michelin 750/65 R 25, 1 Star L-31 ^{§§}	+715 kg (+1,577 lb.)	+557 kg (+1,228 lb.)		+492 kg (+1,084 lb.)		+34 mm (+1.4 in.)		+140 mm (+5.5 in.)		+42 mm (+1.7 in.)	

*May change based on vehicle configuration, weight, or tire-pressure adjustments.

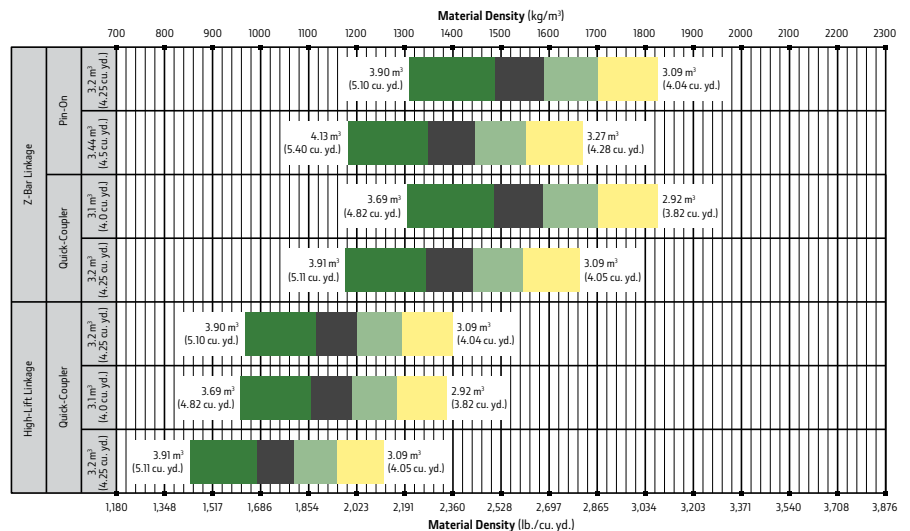
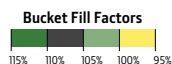
[†]Equipped with 5-piece heavy-duty rims.

[§]CaCl₂ not recommended.

^{§§}Requires 9-deg. rear axle stops.

Bucket Selection Guides

LOOSE MATERIALS	kg/m ³	lb./cu. yd.	LOOSE MATERIALS	kg/m ³	lb./cu. yd.
Chips, pulpwood	288	486	Limestone, coarse, sized	1570	2,646
Cinders (coal, ashes, clinkers)	673	1,134	Limestone, mixed sizes	1682	2,835
Clay and gravel, dry	1602	2,700	Limestone, pulverized or crushed	1362	2,295
Clay, compact, solid	1746	2,943	Sand, damp	2083	3,510
Clay, dry in lump loose	1009	1,701	Sand, dry	1762	2,970
Clay, excavated in water	1282	2,160	Sand, voids, full of water	2083	3,510
Coal, anthracite, broken, loose	865	1,458	Sandstone, quarried	1314	2,214
Coal, bituminous, moderately wet	801	1,350	Shale, broken crushed	1362	2,295
Earth, common loam, dry	1218	2,052	Slag, furnace granulated	1955	3,294
Earth, mud, packed	1843	3,105	Stone or gravel, 37.5 to 87.5-mm	1442	2,430
Granite, broken	1538	2,592	[1.5 to 3.5"] size	1602	2,700
Gypsum	2275	3,834	Stone or gravel, 18.75-mm (0.75") size		



Additional equipment

Key: ● Standard ▲ Optional or special

See your John Deere dealer for further information.

644	
X-TIER	Engine
●	Wet-sleeve cylinder liners
●	Programmable auto-idle and auto shutdown
●	Selected idle adjustment from 900–1,250 rpm
●	Starter excessive-cranking protection
●	Automatic engine cool-down timer
●	Automatic derating for exceeded system temperatures
●	Serpentine drive belt for automatic tensioner
●	Electrical fuel-priming pump
●	Dual-stage fuel filter and water separator
●	500-hour vertical spin-on oil filter
▲	Engine-compartment light
▲	Chrome exhaust stack
●	Automatic glow plugs for cold start
▲	Engine-block heater (recommended for cold starts below –23 deg. C [–10 deg. F])
▲	Centrifugal engine air pre-cleaner
▲	Throttle lock
Powertrain	
●	Clutch cutoff with 4 operator settings: Automatic, level ground, small slope, or steep slope
●	Programmable maximum high gear
●	Clutch calibration engaged from monitor
●	2,000-hour vertical spin-on transmission filter
●	Transmission fill tube and sight gauge
●	Transmission diagnostic ports
●	Hybrid-electric (E-Drive) transmission system
●	Front locking differential
▲	Rear locking differential
●	Brake retractors and adjusters
▲	Automatic differential lock
●	Axle oil temperature sensing
Quad-Cool™ Cooling System	
●	Heavy-duty, trash-resistant radiator
●	2-side access to all coolers
●	Isolated from engine compartment

644	
X-TIER	Quad-Cool Cooling System (continued)
●	Engine radiator
●	Engine oil cooler
●	Hydraulic oil cooler (oil to air)
●	Transmission oil cooler (oil to air)
●	Charge air cooler (air to air)
●	Fuel cooler
●	Coolant recovery tank
●	Antifreeze, –37 deg. C (–34 deg. F)
●	Cool-on-demand, hydraulically driven, swing-out fan
●	Enclosed fan safety guard
▲	Automatic reversing fan drive
●	Axle and service-brake coolers
Hydraulics	
●	Electrohydraulic (EH) controls with soft stops and adjustable settings
●	In-cab adjustable automatic return-to-dig bucket positioner
●	In-cab adjustable automatic boom-height kickout/return to carry
●	Reservoir with sight gauge and fill strainer
●	Hydraulic diagnostic ports
●	4,000-hour in-tank filter
●	2 function — joystick with F-N-R
▲	2 function — 2-lever fingertip controls and steering column F-N-R
▲	3 function — joystick with F-N-R and integrated 3rd-function roller
▲	3 function — 3-lever fingertip controls and steering column F-N-R
▲	4 function — joystick with F-N-R and integrated 3rd/4th-function rollers
●	Programmable multifunction buttons (2)
●	Adjustable and continuous hydraulic-flow settings
●	Programmable attachment settings
▲	Ride control, automatic with monitor-adjustable speed settings
▲	Hydraulic control system for quick-coupler locking pins
▲	Hydrau™ XR cold-temperature hydraulic fluid recommended below –25 deg. C (–13 deg. F)

644	
X-TIER	Steering Systems
●	Conventional steering wheel with spinner knob
▲	Joystick steering (including conventional steering column) with gearshift, F-N-R, and horn
▲	Secondary steering
Electrical	
●	Solid-state electrical power-distribution system
●	Lockable master electrical-disconnect switch
●	Battery-terminal safety covers
●	By-pass start safety cover at starter
●	Remote jump-start access in battery box
●	Pre-wired for beacon/strobe light
●	Lights: Halogen driving lights with guards (2) / Front (4), rear cab (2), and rear grille (2) work lights / LED front turn signals and flashers / LED stop- and taillights
▲	Premium LED light package (all exterior lights are heavy-duty LED)
●	Programmable courtesy lights
●	Horn, electric
●	Reverse warning alarm
●	Multifunction/multi-language 178-mm (7 in.) LCD color monitor includes: Digital instruments — Analog display (hydraulic oil temperature, engine coolant temperature, transmission oil temperature, and engine oil pressure) / Digital display (engine rpm, transmission gear/direction indicator, hour meter, fuel level, diesel exhaust fluid (DEF) level, speedometer, odometer, and average fuel consumption)
▲	Multifunction/multi-language 127-mm (5 in.) LCD color monitor includes: Digital instruments — Analog display (hydraulic oil temperature, engine coolant temperature, transmission oil temperature, and engine oil pressure) / Digital display (engine rpm, transmission gear/direction indicator, hour meter, fuel level, DEF level, speedometer, odometer, and average fuel consumption)

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Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions per ISO 9249. No derating is required up to 3050-m (10,000 ft.) altitude. Specifications and design subject to change without notice. Specifications with the exception of bucket capacity are in accordance with all applicable ISO standards. Except where otherwise noted, these specifications are based on a unit with applicable linkage and standard equipment, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator.

Additional equipment *(cont.)*

Key: ● Standard ▲ Optional or special

See your John Deere dealer for further information.

644	
X-TIER	Electrical <i>(continued)</i>
●	Integrated cycle counter with 5 categories
●	Indicator lights: Standard and selected options / Amber caution and red stop
●	Operator-warning messages
●	Built-in diagnostics: Diagnostic-code details / Sensor values / Calibrations / Individual circuit tester
▲	Electrical corrosion-prevention package
●	Standard AM/FM/Weather-Band (WB) radio with remote auxiliary port
▲	Premium AM/FM/WB radio with Bluetooth®, remote auxiliary port, and remote USB port (premium cab only)
●	24- to 12-volt, 8-amp converter and cab power ports (3)
▲	24- to 12-volt, 15- or 30-amp converter and cab power ports (3)
Operator's Station	
●	Standard cab with air conditioning/heater (ROPS/FOPS Level 1, isolation mounted)
▲	Premium cab with air conditioning/heater (ROPS/FOPS Level 1, isolation mounted)
▲	Automatic temperature control (premium cab only)
●	Rear window defrost vent
●	Keyless start with multiple security modes
●	Sealed-switch module with function indicators
●	Seat with backrest extension, deep foam, fabric cover, and adjustable air suspension
▲	Premium seat with high-wide back- and headrest extension, heated and ventilated, leather/fabric cover, and adjustable heavy-duty air suspension
●	Hydraulic controls integrated to seat
●	High-visibility, bright-orange seat belt, 76 mm (3 in.), with retractor
▲	4-point seat-belt harness
▲	Seat-belt indicator beacon light
●	Cup holder and cup/Thermos® holder with retaining strap
●	Lunch-box/cooler holder with tie-down brackets
●	Coat hook

644	
X-TIER	Operator's Station <i>(continued)</i>
●	LED dome and reading light
●	Rubber floor mat
●	Dual-tilt steering column
●	Operator's manual storage compartment
●	Outside (2) and inside (1) rearview mirrors
▲	Heated outside mirrors with convex lens
▲	In-cab adjustable heated outside mirrors with convex lens (premium cab only)
●	Left-side operator-station access
●	Fall-arrest system anchor points tested to 2268 kg (5,000 lb.) on front of cab
●	Slip-resistant steps and ergonomic handholds
●	Pull-down front sun visor
●	Front and rear intermittent windshield wipers and washers
▲	Powered cab air pre-cleaner
▲	Beacon bracket only
▲	Beacon bracket with strobe beacon
●	Rearview camera
▲	Rearview camera with radar object-detection system
▲	Dedicated 178-mm (7 in.) rear camera display
▲	Advanced Rear Object-Detection System
▲	Advanced Vision System
●	Payload scale ready
▲	SmartWeigh™ ready + trial
▲	SmartWeigh
▲	SmartDetect™
▲	SmartDetect™ Digital
▲	Fire extinguisher
Loader Linkage	
●	Z-Bar loader linkage (parallel lift)
▲	High-Lift Z-Bar loader linkage (parallel lift)
Buckets and Attachments	
▲	Full line of Deere pin-on buckets, coupler buckets, and forks
▲	John Deere hydraulic coupler that accepts JRB-pattern attachments
▲	Hi-Vis hydraulic coupler that accepts Euro-pattern attachments (ISO)
▲	Full line of Deere hook-on buckets and forks

644	
X-TIER	Overall Vehicle
●	JDLink wireless communication system (available in specific countries; see your dealer for details)
●	NeverGrease™ rear-axle oscillation
●	Front and rear tie-downs
●	Rear cast bumper/counterweight with rear hitch and locking pin
●	Articulation locking bar
●	Loader boom service locking bar
●	40-deg. steering articulation to each side with rubber-cushion stops on frame
●	Vandal protection with lockable engine enclosures, right counterweight storage, and filler access for radiator/fuel/DEF/hydraulic/transmission
●	Left-side service steps and handholds
●	Storage compartment
●	Fuel-tank fill strainer
●	Heavy-duty fuel-tank guard
●	Ground-level fuel and DEF fill
●	Same-side ground-level daily servicing
●	23.5R25 tires on 3-piece rims
▲	23.5R25 tires on 5-piece rims
▲	Tire-pressure monitoring system
▲	Waste handler (Z-Bar and High-Lift)
●	Environmental drains and sample ports for engine, transmission, hydraulic oils, and engine coolant
▲	Quick fluid service (engine, transmission, hydraulic oils, and engine coolant)
▲	Fast-fuel system
●	Fenders, front narrow
▲	Fenders, front full width
▲	Fenders, front and rear full width
▲	Fenders, front and rear full width with mud flaps
▲	Less wheels and tires with axle stops
▲	Rims less tires
▲	Transmission side-frame and bottom guards
▲	Special guarding for waste applications
▲	Lift eyes
▲	License-plate bracket and light

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