

824 X

Wheel Loader



JOHN DEERE



PROACTIVE POWERHOUSE

When your daily grind includes hauling material over long distances or working in abrasive aggregate conditions, you need a machine that can tackle it all while taking it easy on operators and your bottom line. With intuitive controls, a cab ergonomically designed for comfort and productivity, your choice of customer-inspired options, and now a purpose-built Electric Variable Transmission (EVT) to power your productivity, the 824 X-Tier Wheel Loader is redesigned and ready to deliver premium levels of machine performance and fuel efficiency along with an enhanced operator experience to help attract and retain your most precious resource.

Operate at an EVT advantage

Powered by our proven JD9 engine, the 824 X-Tier is equipped with an exclusive Deere-designed and -built Electric Variable Transmission (EVT). Replacing both the torque converter and traditional transmission of comparable models, the field-tested EVT delivers rapid response and power on demand as well as low-effort single-pedal operation. Two electric motors plus an inverter allow the system to efficiently manage

torque, power to the ground, and ground speed similar to the E-Drive in our 944 X-Tier and 644 X-Tier.

Outsized comfort

Standard premium heated/ventilated seat, HVAC system with automatic temperature control, and durable sealed-switch module are placed for ergonomic comfort and convenience. Wide door eases getting in and out of the cab.

It's easy to take control

Intuitive seat-mounted right-hand hydraulic controls feature two programmable multifunction buttons enabled with electrohydraulic (EH) capability. Operators can adjust settings based on individual preference to increase productivity across a range of jobsite applications.

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

X

LEADING EDGE

Premium edge with innovative technology

P

EXCEPTIONAL PERFORMANCE

Advanced features and performance

G

RUGGED AND RELIABLE

Proven capabilities and value

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.



AVS ON THE G5 DISPLAY



SMARTDETECT ON THE G5 DISPLAY

Pile it on

Pile Slip Assist improves tire traction and wear life while optimizing bucket fill and cycle times.

Environmental science

Running the engine at a constant speed eliminates unnecessary noise on the jobsite around the machine and creates a comfortable, quiet space for the operator inside the cab.

Heavy-duty durability

Large, high-capacity, heavy-duty axles with standard axle cooling and filtration are designed to durably withstand demanding conditions.

Reliable redesign

Routing of the electrical and hydraulic systems has been significantly simplified to minimize friction, improving reliability and easing maintenance.

Master the maintenance routine

All daily service points including fuel are conveniently grouped on the left side of the machine at ground level, for easy access. The engine oil dipstick is conveniently within reach. Optional auto-lube system integrates with machine diagnostics to save time and operating expenses.



**PILE SLIP ASSIST
BOOSTS TRACTION
& BUCKET FILL**



824 X-TIER WHEEL LOADER



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.



824 X-TIER WHEEL LOADER SPECIFICATIONS

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Specifications and designs are subject to change without notice and, where applicable, are in accordance with SAE standards. Unless otherwise noted, 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. For complete details, contact your John Deere dealer.

Engine		824 X-TIER	
Manufacturer and Model		John Deere JD9	
Non-Road Emission Standard		EPA Final Tier 4/EU Stage V	
Cylinders		6	
Valves per Cylinder		4	
Displacement		9.0 L (548 cu. in.)	
Net Peak Power (ISO 9249)		264 kW (354 hp) at 1,600 rpm	
Net Peak Torque (ISO 9249)		1737 Nm (1,281 lb.-ft.) at 1,300 rpm	
Net Torque Rise		35%	
Fuel System		High-pressure common rail	
Lubrication		Full-flow spin-on filter and integral cooler	
Aspiration		Series turbocharged, charge air cooled	
Air Cleaner		Under-hood, dual-element dry type, restriction indicator in cab monitor for service	
Cooling			
Fan Drive		Hydraulically driven, proportionally controlled, fan aft of coolers	
Electrical			
Electrical System		24 volt with 150-amp alternator	
Batteries (2 – 12 volt)		1,400 CCA (each)	
Transmission System			
Type		Electric Variable Transmission (EVT)	
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–5th or 2nd–5th); Quick-Shift button with 2 selectable modes: kick-down or kick-up/down	
Maximum Travel Speeds (with 26.5 R 25, 1 Star L3 tires)		<i>Forward</i>	<i>Reverse</i>
Range 1		7.1 km/h (4.4 mph)	7.3 km/h (4.5 mph)
Range 2		13.1 km/h (8.1 mph)	13.7 km/h (8.5 mph)
Range 3		26.3 km/h (16.3 mph)	27.0 km/h (16.8 mph)
Range 4		39.5 km/h (24.5 mph)	N/A
Range 5		N/A	N/A
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 26.5 R 25, 1 Star L3 tires)		26 deg. (13 deg. each direction)	
Brakes (conform to ISO 3450)			
Service		Hydraulically actuated, spring released, inboard, sun-gear mounted, pressure oil cooled, self-adjusting, single disc	
Parking		Automatic spring applied, hydraulically released, oil cooled, multi disc	
Tires/Wheels			
(see page 9 for complete tire adjustments)		<i>Tread Width</i>	<i>Width Over Tires</i>
Michelin 26.5 R 25, 1 Star L3		2298 mm (90.5 in.)	3084 mm (121.4 in.)
Serviceability			
Refill Capacities			
Fuel Tank With Lockable Cap		477 L (126 gal.)	
Diesel Exhaust Fluid (DEF)		26.3 L (6.9 gal.)	
Cooling System		48 L (50.7 qt.)	
Engine Oil With Vertical Spin-On Filter		34 L (36 qt.)	
Transmission Reservoir With Vertical Filter		53 L (56 qt.)	
Power Electronics Cooling System		9.5 L (10 qt.)	
Axle Oil (front and rear, each)		55.3 L (58.4 qt.)	
Hydraulic Reservoir and Filter		151 L (39.9 gal.)	
Park Brake Oil (wet disc)		0.7 L (24 oz.)	
Hydraulic System/Steering			
Pump(s)		<i>Loader</i>	<i>Steering</i>
Maximum Rated Flow at 6895 kPa (1,000 psi) and 1,600 rpm		2 variable-displacement, load-sensing axial-piston pumps; closed-center system	1 variable-displacement, load-sensing axial-piston pump; closed-center system
System Relief Pressure		400 L/m (106 gpm)	161.5 L/m (43 gpm)
Loader Controls		24 900 kPa (3,610 psi)	24 900 kPa (3,610 psi)
Steering (conforms to ISO 5010)		2-function valve; single- or dual-lever controls; control lever lockout feature; optional 3rd- and 4th-function valve with auxiliary levers	
Type		Power, fully hydraulic	
Articulation Angle		80-deg. arc (40 deg. each direction)	

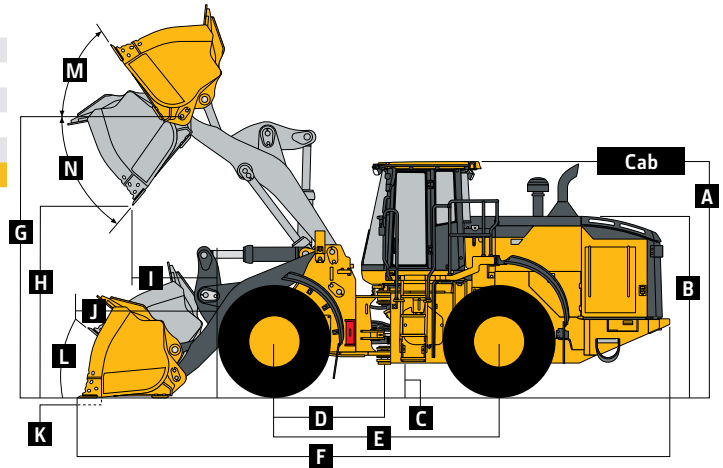
824 X-TIER WHEEL LOADER SPECIFICATIONS

824



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Hydraulic System/Steering (continued)		824 X-TIER
Turning Radius (measured to centerline of outside tire)		5.92 m (19 ft. 5 in.)
Hydraulic Cycle Times		Standard-Lift
Raise		6.1 sec.
Dump		1.4 sec.
Lower (float down)		2.8 sec.
Total		10.3 sec.
Dimensions and Specifications With Pin-On Bucket		



824 X-TIER STANDARD-LIFT AND HIGH-LIFT LOADERS WITH PIN-ON BUCKET

	Standard-Lift 4.8-m ³ (6.25 cu. yd.) general-purpose enhanced performance without wear plates	Standard-Lift 5.2-m ³ (6.75 cu. yd.) material-handling enhanced performance without wear plates	Standard-Lift 5.35-m ³ (7.0 cu. yd.) material-handling enhanced performance without wear plates	High-Lift 4.8-m ³ (6.25 cu. yd.) general-purpose enhanced performance without wear plates
Dimensions With Bucket				
Cutting Edge Type				
A Height to Top of Cab	3.57 m (11 ft. 9 in.)	3.57 m (11 ft. 9 in.)	3.57 m (11 ft. 9 in.)	3.57 m (11 ft. 9 in.)
B Hood Height	2.73 m (8 ft. 11 in.)	2.73 m (8 ft. 11 in.)	2.73 m (8 ft. 11 in.)	2.73 m (8 ft. 11 in.)
C Ground Clearance	458 mm (18 in.)	458 mm (18 in.)	458 mm (18 in.)	458 mm (18 in.)
D Length From Centerline to Front Axle	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)
E Wheelbase	3.46 m (11 ft. 4 in.)	3.46 m (11 ft. 4 in.)	3.46 m (11 ft. 4 in.)	3.46 m (11 ft. 4 in.)
F Overall Length, Bucket on Ground	9.38 m (30 ft. 9 in.)	9.44 m (31 ft. 0 in.)	9.50 m (31 ft. 2 in.)	9.88 m (32 ft. 5 in.)
G Height to Hinge Pin, Fully Raised	4.48 m (14 ft. 9 in.)	4.48 m (14 ft. 9 in.)	4.48 m (14 ft. 9 in.)	4.83 m (15 ft. 10 in.)
H Dump Clearance, 45 deg., Full Height	3.12 m (10 ft. 3 in.)	3.08 m (10 ft. 1 in.)	3.04 m (10 ft. 0 in.)	3.58 m (11 ft. 9 in.)
I Reach, 45-deg. Dump, Full Height	1.33 m (4 ft. 4 in.)	1.38 m (4 ft. 6 in.)	1.41 m (4 ft. 8 in.)	1.71 m (5 ft. 7 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	2.08 m (6 ft. 10 in.)	2.11 m (6 ft. 11 in.)	2.11 m (6 ft. 11 in.)	2.54 m (8 ft. 4 in.)
K Maximum Digging Depth	123 mm (4.8 in.)	129 mm (5.1 in.)	133 mm (5.2 in.)	237 mm (9.3 in.)
L Maximum Rollback at Ground Level	45.4 deg.	45.4 deg.	45.4 deg.	45.4 deg.
M Maximum Rollback, Boom Fully Raised	52.0 deg.	52.0 deg.	52.0 deg.	52.0 deg.
N Maximum Bucket Dump Angle, Fully Raised	44.8 deg.	44.8 deg.	44.8 deg.	38.9 deg.
Loader Clearance Circle, Bucket Carry Position	14.20 m (46 ft. 7 in.)	14.24 m (46 ft. 9 in.)	14.24 m (46 ft. 9 in.)	14.24 m (46 ft. 9 in.)
Specifications With Bucket				
Capacity, Heaped	4.8 m ³ (6.25 cu. yd.)	5.2 m ³ (6.75 cu. yd.)	5.35 m ³ (7.0 cu. yd.)	4.8 m ³ (6.25 cu. yd.)
Capacity, Heaped at 110% Fill Factor	5.3 m ³ (6.88 cu. yd.)	5.7 m ³ (7.43 cu. yd.)	5.9 m ³ (7.72 cu. yd.)	5.3 m ³ (6.88 cu. yd.)
Capacity, Struck	4.1 m ³ (5.36 cu. yd.)	4.4 m ³ (5.80 cu. yd.)	4.7 m ³ (6.10 cu. yd.)	4.1 m ³ (5.36 cu. yd.)
Bucket Weight With Bolt-On Cutting Edge	2464 kg (5,432 lb.)	2505 kg (5,523 lb.)	2538 kg (5,595 lb.)	2464 kg (5,432 lb.)
Bucket Width	3.28 m (10 ft. 9 in.)	3.28 m (10 ft. 9 in.)	3.28 m (10 ft. 9 in.)	3.28 m (10 ft. 9 in.)
Breakout Force	17 776 kg (39,189 lb.)	17 054 kg (37,598 lb.)	16 504 kg (36,385 lb.)	16 660 kg (36,729 lb.)
Tipping Load, Straight, No Tire Deflection	21 795 kg (48,050 lb.)	21 628 kg (47,682 lb.)	21 501 kg (47,402 lb.)	18 486 kg (40,755 lb.)
Tipping Load, Straight, With Tire Deflection	20 325 kg (44,809 lb.)	20 160 kg (44,445 lb.)	20 034 kg (44,167 lb.)	17 325 kg (38,195 lb.)
Tipping Load, 37-deg. Partial Turn	19 182 kg (42,289 lb.)	19 028 kg (41,950 lb.)	18 911 kg (41,692 lb.)	16 204 kg (35,724 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	18 759 kg (41,356 lb.)	18 607 kg (41,021 lb.)	18 491 kg (40,766 lb.)	15 835 kg (34,910 lb.)
Tipping Load, 40-deg. Full Turn, With Tire Deflection	16 830 kg (37,104 lb.)	16 680 kg (36,773 lb.)	16 566 kg (36,522 lb.)	14 283 kg (31,489 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load, With Tire Deflection (conforms to ISO 14397-1)*	8415 kg (18,552 lb.)	8340 kg (18,387 lb.)	8283 kg (18,261 lb.)	7142 kg (15,745 lb.)
Operating Weight	27 213 kg (59,994 lb.)	27 254 kg (60,085 lb.)	27 287 kg (60,157 lb.)	27 592 kg (60,830 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, John Deere JD9 (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.

*Rated operating capacity based on Deere attachments only.

824 X-TIER

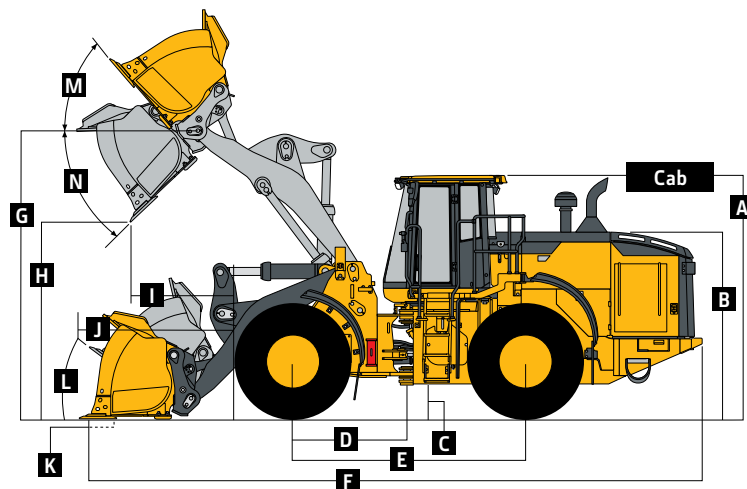
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Dimensions and Specifications

With Coupler and Hook-On Bucket

824 X-TIER



824 X-TIER STANDARD-LIFT AND HIGH-LIFT LOADERS WITH COUPLER AND HOOK-ON BUCKET

	Standard-Lift 4.0-m ³ (5.25 cu. yd.) general-purpose enhanced performance without wear plates bolt-on edge	Standard-Lift 4.6-m ³ (6.0 cu. yd.) general-purpose enhanced performance without wear plates bolt-on edge
Dimensions With Bucket		
Cutting Edge Type		
A Height to Top of Cab	3.57 m (11 ft. 9 in.)	3.57 m (11 ft. 9 in.)
B Hood Height	2.73 m (8 ft. 11 in.)	2.73 m (8 ft. 11 in.)
C Ground Clearance	458 mm (18 in.)	458 mm (18 in.)
D Length From Centerline to Front Axle	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)
E Wheelbase	3.46 m (11 ft. 4 in.)	3.46 m (11 ft. 4 in.)
F Overall Length, Bucket on Ground	9.32 m (30 ft. 7 in.)	9.46 m (31 ft. 1 in.)
G Height to Hinge Pin, Fully Raised	4.48 m (14 ft. 9 in.)	4.48 m (14 ft. 9 in.)
H Dump Clearance, 45 deg., Full Height	3.16 m (10 ft. 5 in.)	3.07 m (10 ft. 1 in.)
I Reach, 45-deg. Dump, Full Height	1.32 m (4 ft. 4 in.)	1.41 m (4 ft. 8 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	2.10 m (6 ft. 11 in.)	2.15 m (7 ft. 1 in.)
K Maximum Digging Depth	90 mm (3.6 in.)	105 mm (4.1 in.)
L Maximum Rollback at Ground Level	45.4 deg.	45.4 deg.
M Maximum Rollback, Boom Fully Raised	52.0 deg.	52.0 deg.
N Maximum Bucket Dump Angle, Fully Raised	44.0 deg.	44.0 deg.
Loader Clearance Circle, Bucket Carry Position	14.16 m (46 ft. 5 in.)	14.24 m (46 ft. 9 in.)
Specifications With Bucket		
Capacity, Heaped	4.0 m ³ (5.25 cu. yd.)	4.6 m ³ (6.0 cu. yd.)
Capacity, Heaped at 110% Fill Factor	4.4 m ³ (5.75 cu. yd.)	4.6 m ³ (6.0 cu. yd.)
Capacity, Struck	3.4 m ³ (4.5 cu. yd.)	4.0 m ³ (5.25 cu. yd.)
Bucket Weight With Bolt-On Cutting Edge	2586 kg (5,701 lb.)	2730 kg (6,019 lb.)
Bucket Width	3.28 m (10 ft. 9 in.)	3.28 m (10 ft. 9 in.)
Breakout Force	17 834 kg (39,317 lb.)	16 266 kg (35,860 lb.)
Tipping Load, Straight, No Tire Deflection	21 059 kg (46,427 lb.)	20 562 kg (45,331 lb.)
Tipping Load, Straight, With Tire Deflection	19 569 kg (43,142 lb.)	19 086 kg (42,077 lb.)
Tipping Load, 37-deg. Partial Turn	18 427 kg (40,625 lb.)	17 969 kg (39,615 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	18 001 kg (39,685 lb.)	17 549 kg (38,689 lb.)
Tipping Load, 40-deg. Full Turn, With Tire Deflection	16 041 kg (35,364 lb.)	15 606 kg (34,405 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load, With Tire Deflection (conforms to ISO 14397-1)*	8021 kg (17,683 lb.)	7803 kg (17,203 lb.)
Operating Weight	28 359 kg (62,521 lb.)	28 504 kg (62,840 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, John Deere JD9 (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.

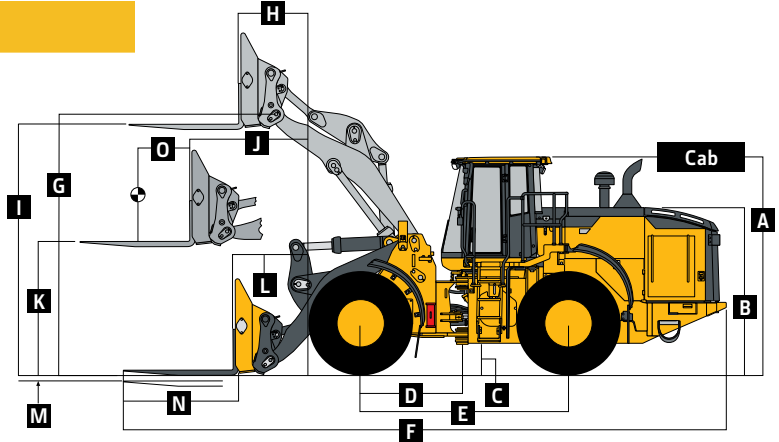
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824 X-TIER

Dimensions and Specifications With Coupler and Hook-On Construction Forks

824 X-TIER



824 X-TIER STANDARD-LIFT AND HIGH-LIFT LOADERS WITH COUPLER AND HOOK-ON CONSTRUCTION FORKS

Dimensions With Forks	Standard-Lift 1.83-m (72 in.) tine length	Standard-Lift 2.44-m (96 in.) tine length	High-Lift 1.83-m (72 in.) tine length
A Height to Top of Cab	3.57 m (11 ft. 9 in.)	3.57 m (11 ft. 9 in.)	3.57 m (11 ft. 9 in.)
B Hood Height	2.73 m (8 ft. 11 in.)	2.73 m (8 ft. 11 in.)	2.73 m (8 ft. 11 in.)
C Ground Clearance	458 mm (18 in.)	458 mm (18 in.)	458 mm (18 in.)
D Length From Centerline to Front Axle	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)
E Wheelbase	3.46 m (11 ft. 4 in.)	3.46 m (11 ft. 4 in.)	3.46 m (11 ft. 4 in.)
F Overall Length, Forks on Ground	9.96 m (32 ft. 8 in.)	10.57 m (34 ft. 8 in.)	10.49 m (34 ft. 5 in.)
G Height to Hinge Pin, Fully Raised	4.48 m (14 ft. 9 in.)	4.48 m (14 ft. 9 in.)	4.83 m (15 ft. 10 in.)
H Reach, Fully Raised	0.81 m (32 in.)	0.81 m (32 in.)	1.05 m (3 ft. 5 in.)
I Fork Height, Fully Raised	4.32 m (14 ft. 2 in.)	4.32 m (14 ft. 2 in.)	4.66 m (15 ft. 3 in.)
J Maximum Reach, Fork Level	1.87 m (6 ft. 2 in.)	1.87 m (6 ft. 2 in.)	2.29 m (7 ft. 6 in.)
K Fork Height, Maximum Reach	2.00 m (6 ft. 7 in.)	2.00 m (6 ft. 7 in.)	2.00 m (6 ft. 7 in.)
L Reach, Ground Level	1.14 m (3 ft. 9 in.)	1.14 m (3 ft. 9 in.)	1.67 m (5 ft. 6 in.)
M Depth Below Ground	55 mm (2.2 in.)	55 mm (2.2 in.)	59 mm (2.3 in.)
N Tine Length	1.83 m (72 in.)	2.44 m (96 in.)	1.83 m (72 in.)
O Load Position, 50% Tine Length	0.92 m (36 in.)	1.22 m (48 in.)	0.92 m (36 in.)
Specifications With Buckets			
Tipping Load, Straight, No Tire Deflection	14 668 kg (32,337 lb.)	13 355 kg (29,443 lb.)	13 051 kg (28,773 lb.)
Tipping Load, Straight, With Tire Deflection	14 199 kg (31,303 lb.)	12 948 kg (28,545 lb.)	12 654 kg (27,897 lb.)
Tipping Load, 37-deg. Partial Turn, No Tire Deflection	12 914 kg (28,470 lb.)	11 734 kg (25,869 lb.)	11 439 kg (25,219 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	12 630 kg (27,844 lb.)	11 472 kg (25,291 lb.)	11 178 kg (24,643 lb.)
Tipping Load, 40-deg. Full Turn, With Tire Deflection	11 973 kg (26,396 lb.)	10 899 kg (24,028 lb.)	10 614 kg (23,400 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load, With Tire Deflection (conforms to ISO 14397-1)*	5987 kg (13,199 lb.)	5450 kg (12,015 lb.)	5307 kg (11,700 lb.)
Rated Operating Load, Rough Terrain, 60% Full-Turn Tipping Load, With Tire Deflection (conforms to EN474-3)*	7184 kg (15,838 lb.)	6539 kg (14,416 lb.)	6368 kg (14,039 lb.)
Rated Operating Load, Firm and Level Ground, 80% Full-Turn Tipping Load, With Tire Deflection (conforms to EN474-3)*	9578 kg (21,116 lb.)	8719 kg (19,222 lb.)	8491 kg (18,719 lb.)
Operating Weight	27 011 kg (59,549 lb.)	27 184 kg (59,930 lb.)	27 586 kg (60,817 lb.)

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*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 Standard-Lift machine with pin-on 4.6-m³ (6.0 cu. yd.) general-purpose bucket with bolt-on cutting edge and no wear plates, 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 for loaders with 3-piece rims	Operating Weight	Tipping Load, Straight	Tipping Load, 37-deg. Partial Turn	Tipping Load, 40-deg. Full Turn	Tread Width	Width Over Tires	Vertical Height
Michelin 26.5 R 25, 2 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 mm (0 in.)	0 mm (0 in.)	0 mm (0 in.)
Titan 26.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 mm (0 in.)	–7 mm (–0.27 in.)	+4 mm (+0.16 in.)
Goodyear 26.5 R 25, 1 Star L-3	–56 kg (–123 lb.)	–39 kg (–86 lb.)	–35 kg (–77 lb.)	–35 kg (–77 lb.)	0 mm (0 in.)	+1 mm (+0.04 in.)	+4 mm (+0.16 in.)
Firestone 26.5-25, 20-Ply L-3	–360 kg (–794 lb.)	–254 kg (–560 lb.)	–228 kg (–503 lb.)	–224 kg (–494 lb.)	0 mm (0 in.)	–28 mm (–1.10 in.)	+39 mm (+1.53 in.)
Firestone 26.5-25, 20-Ply L-5 [‡]	+312 kg (+688 lb.)	+220 kg (+485 lb.)	+197 kg (+434 lb.)	+194 kg (+428 lb.)	0 mm (0 in.)	–18 mm (–0.70 in.)	+63 mm (+2.48 in.)
Michelin 775/65 R29, 1 Star L-3 [§]	+726 kg (+1,601 lb.)	+512 kg (+1,129 lb.)	+459 kg (+1,012 lb.)	+451 kg (+994 lb.)	0 mm (0 in.)	+104 mm (+4.09 in.)	+23 mm (+0.91 in.)
Bridgestone 775/65 R29, 1 Star L-3 [§]	+876 kg (+1,931 lb.)	+618 kg (+1,362 lb.)	+554 kg (+1,221 lb.)	+554 kg (+1,199 lb.)	0 mm (0 in.)	+99 mm (+3.90 in.)	+14 mm (+0.55 in.)
4.8-m ³ (6.25 cu. yd.) General-Purpose Bucket With Wear Liners	+264 kg (+582 lb.)	–526 kg (–1,160 lb.)	–500 kg (–1,102 lb.)	–496 kg (–1,093 lb.)	0 mm (0 in.)	0 mm (0 in.)	0 mm (0 in.)
5.2-m ³ (6.75 cu. yd.) Material-Handling Bucket With Wear Liners	+305 kg (+672 lb.)	–685 kg (–1,510 lb.)	–646 kg (–1,424 lb.)	–640 kg (–1,411 lb.)	0 mm (0 in.)	0 mm (0 in.)	0 mm (0 in.)
High-Lift Boom	+379 kg (+836 lb.)	–3247 kg (–7,158 lb.)	–2922 kg (–6,442 lb.)	–2869 kg (–6,325 lb.)	0 mm (0 in.)	0 mm (0 in.)	0 mm (0 in.)

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

[‡]Requires 8-deg. rear axle stops.

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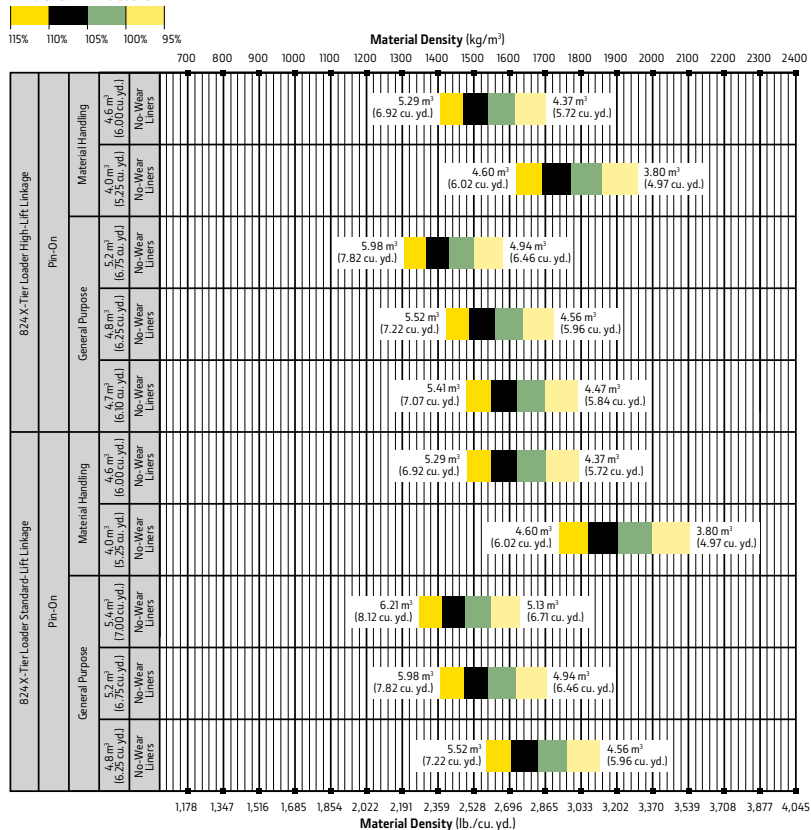
Specifications and designs are subject to change without notice and, where applicable, are in accordance with SAE standards. Unless otherwise noted, specifications are based on a unit with applicable linkage and standard equipment, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. For complete details, contact your John Deere dealer.

Bucket Selection Guides

824 X-TIER

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 (1.5 to 3.5 in.) size	1442	2,430
Granite, broken	1538	2,592	Stone or gravel, 18.75-mm (0.75 in.) size	1602	2,700
Gypsum	2275	3,834			

Bucket Fill Factors



Additional equipment

Key: ● Standard ▲ Optional or special

See your John Deere dealer for further information.

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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
- Black exhaust stack with brushed-nickel trim
- ▲ Chrome exhaust stack
- ▲ Automatic ether starting aid and engine block heater (recommended for cold starts below –12 deg. C [10 deg. F])
- Centrifugal engine air pre-cleaner

Powertrain

- Programmable maximum ground speed or high gear
- Clutch calibration engaged from monitor

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X-TIER Powertrain (continued)

- 2,000-hour vertical spin-on transmission filter
- Transmission fill tube with sight gauge
- 4-speed electric variable transmission
- Front locking differential
- ▲ Rear locking differential
- Brake adjusters and retractors
- ▲ Automatic differential lock
- Axle oil temperature sensing
- Wheel-spin control
- Coast control, 4 operator settings
- Cruise control
- ▲ Pile Slip Assist
- Quad-Cool™ Cooling System
- Dedicated power electronics coolant-based cooling system
- Heavy-duty, trash-resistant radiator and high-ambient cooling package
- 2-side access to all coolers
- Isolated from engine compartment
- Engine radiator
- Integral engine oil cooler
- Hydraulic oil cooler (oil to air)

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X-TIER Quad-Cool Cooling System (continued)

- Transmission oil cooler (oil to air)
- Charge air cooler (air to air)
- Fuel cooler
- Coolant recovery tank with under-hood lighting
- Coolant-loss sensor
- Antifreeze, –37 deg. C (–34 deg. F)
- Cool-on-demand swing-out fan
- Enclosed fan safety guard
- Automatic reversing fan drive
- Axle and service-brake coolers
- Hydraulics
- Electrohydraulic control 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 – 2-lever fingertip controls
- ▲ 2 function – joystick

Additional equipment *(continued)*

Key: ● Standard ▲ Optional or special
See your John Deere dealer for further information.

824 X-TIER	Hydraulics <i>(continued)</i>
▲	2 function — joystick with F-N-R (steering wheel only)
▲	3 function — 3-lever fingertip controls
▲	3 function — joystick with integrated 3rd-function roller
▲	3 function — joystick with integrated 3rd-function roller and F-N-R (steering wheel only)
▲	4 function — joystick with integrated 3rd/4th-function rollers
▲	4 function — joystick with integrated 3rd/4th-function rollers and F-N-R (steering wheel only)
●	2 programmable multifunction buttons
●	Adjustable and continuous auxiliary 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)
Steering Systems	
●	Joystick steering with gearshift, F-N-R, and horn
▲	Conventional steering wheel with spinner knob
▲	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
▲	Beacon bracket (single or dual available)
▲	LED strobe beacon
●	Lights: LED 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
●	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)
●	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

824 X-TIER	Electrical <i>(continued)</i>
▲	Electrical corrosion-prevention package
●	Premium AM/FM/Weather Band (WB) radio with Bluetooth®, remote auxiliary port, and remote USB port
▲	24- to 12-volt, 30-amp converter with 3 in-cab power ports
Operator's Station	
●	Quiet Cab with air conditioning/heater (ROPS/FOPS Level 2, isolation mounted)
●	Automatic temperature control
●	Rear window defrost vent
●	Keyless start with multiple security modes
●	Sealed-switch module with function indicators
●	Premium seat with high-wide back and headrest extension, heated and ventilated, leather/fabric cover, pan tilt/extend, damper adjustments, and adjustable heavy-duty air suspension
●	Hydraulic controls and joystick steering 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
●	LED dome and reading light
●	Coat hook
●	Rubber floor mat
▲	Dual-tilt steering column (steering wheel only)
●	Operator's manual storage compartment
●	Outside (2) and inside (2) rearview mirrors
▲	In-cab adjustable heated outside mirrors with convex lens
●	Left-side operator-station access
●	Front window-washing platforms with fall-arrest system anchor points tested to 2268 kg (5,000 lb.)
●	Slip-resistant steps and ergonomic handholds
●	Pull-down front sun visor
▲	Pull-down rear sun visor
●	CB radio ready with 12-volt power, bracket, and antennae included
●	Front and rear intermittent windshield wiper and washers
▲	Powered cab air pre-cleaner
●	Rearview camera
▲	Advanced Rear Object-Detection System
▲	Advanced Vision System
●	Payload scale ready
▲	SmartWeigh™ ready + trial
▲	SmartWeigh
▲	SmartDetect™
▲	SmartDetect™ Digital
▲	Fire extinguisher

824 X-TIER	Loader Linkage
●	Z-Bar loader linkage
▲	High-Lift Z-Bar loader linkage
Buckets and Attachments	
▲	Full line of Deere pin-on buckets, hook-on buckets, and forks
▲	John Deere hydraulic coupler that accepts JRB 420-pattern attachments
▲	Bolt-on bucket spill guard
▲*	Bushed pin joints (including static joints) on optional Enhanced-Performance buckets
Overall Vehicle	
●	JDLink™ wireless communication system (available in specific countries; see your dealer for details)
▲	Auto-lube system with empty reservoir sensor and diagnostics integrated into machine diagnostics and JDLink alerts
●	Front and rear tie-downs
●	Rear cast bumper 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, battery box, and filler access for radiator/fuel/hydraulic transmission
●	Right and left handrails, platforms, and steps
●	Service steps and handholds
●	Storage compartment
●	Fuel-tank fill strainer
●	Heavy-duty fuel-tank guard
●	Ground-level fueling and DEF
●	Same-side ground-level daily servicing
●	Environmental drains for engine, transmission, hydraulic oils, and engine coolant
●	Fluid-sampling ports for engine, transmission, hydraulic and axle oils, and engine coolant
●	26.5R25 tires on 5-piece rims
▲	775/65R29 tires on 5-piece rims
▲	Tire-pressure monitoring system
●	Transmission side-frame and bottom guards
▲	Fast-fuel system
▲	Quick fluid service (engine, transmission, hydraulic oils, and engine coolant)
●	Fenders, full-coverage, front
▲	Fenders, full-coverage, front and rear
▲	Fenders, roading, full-coverage, front and rear
▲	Rims less tires with axle stops
●	Lift eyes
▲	Wheel-chock-mounting brackets
▲	License-plate bracket and light
▲	Special guarding for waste and forestry applications
*Standard or optional depending on determination with less bucket as an option; bucket bushings are standard.	

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MW824XAU (25-09)



JOHN DEERE