K-SERIES LOADERS

173–283 kW (232–380 hp)

JOHN DEERE

Think. Big.

Serious productivity demands serious thinking. Many of the numerous improvements in the K-Series came from the brightest minds in the industry — loader owners and users such as yourself. Armed with fresh insights from this Customer Advocate Group, we enlarged the cab, redesigned the cooling, enhanced the hydraulics, refined the ergonomics, and offered even more options. All with the goal of increasing productivity and uptime, while lowering daily operating costs. Owners, operators, and maintenance personnel will all benefit from the big ideas found in the 644K, 724K, 744K, 824K, and 844K Loaders. To learn how, turn the page.

John Deere PowerTech™ EPA Tier 3/EU Stage IIIA diesel engines deliver power without compromise in all conditions. The 644K, 724K, and 744K are also available with EPA Interim Tier 4/EU Stage IIIB diesels.

Torque reserves are impressive, topping out at a whopping 65 percent in the 644K. It's a K-Series advantage that helps maintain good boom and bucket speed in and out of the pile. For heaped loads, even in wet or hard-packed material.

Low center of gravity and optimized fore-and-aft balance deliver impressive stability and full-turn tipping-load capacities.

Unsurpassed powertrain and hydraulic performance helps maintain quick ground speed and boom lift, even on steep ramps. For faster cycles.

Like most of our construction equipment, your loader is standard equipped with JDLink™ Ultimate, giving you 24/7 online access to your fleet's location. Track machine health, utilization, and fuel consumption – valuable information that helps you better understand costs and jobsite performance. Plus, protect machines from theft by setting up geofence and curfew alerts in your JDLink account.

K-Series key specs:

	644K	724K	744K	824K	844K
Rated Net Power	173 kW (232 hp)	197 kW (264 hp)	227 kW (304 hp)	248 kW (333 hp)	283 kW (380 hp)
Bucket Capacity	3.2 m^3 (4.25 cu. yd.)	3.6 m^3 (4.75 cu. yd.)	4.0 m^3 (5.25 cu. yd.)	4.6 m^3 (6.0 cu. yd.)	5.5 m^3 (7.25 cu. yd.)
Z-Bar:					
Tipping Load 40-degree full turn	12 879 kg (28,393 lb.)	14 132 kg (31,155 lb.)	16 946 kg (37,360 lb.)	17 588 kg (38,775 lb.)	20 020 kg (44,136 lb.)
Breakout Force	15 378 kg (33,903 lb.)	14 398 kg (31,742 lb.)	19 416 kg (42,805 lb.)	18 905 kg (41,678 lb.)	21 709 kg (47,860 lb.)
Operating Weight	18 333 kg (40,406 lb.)	19 264 kg (42,457 lb.)	24 346 kg (53,674 lb.)	26 210 kg (57,783 lb.)	32 037 kg (70,629 lb.)
PowerIlel™:					
Tipping Load 40-degree full turn	11 051 kg (24,364 lb.)	N/A	N/A	N/A	N/A
Breakout Force	12 029 kg (26,519 lb.)	N/A	N/A	N/A	N/A
Operating Weight	19 966 kg (44,005 lb.)	N/A	N/A	N/A	N/A

Expand your operator's comfort zone.

What operator wouldn't be more productive in the high-back air-ride seat of a K-Series Loader? An enhanced multifunction monitor displays operating and diagnostic info on a color LCD screen with easy-on-the-eyes clarity. Expansive tinted front glass and a low-profile console provide a commanding view of the work ahead. The quieter, more spacious cab boasts extra legroom and improved ergonomics, too, including fatigue-beating features like seat-mounted loader controls. And an expanded sealed-switch module with keyless start and easy pushbutton operation of even more functions.

Available premium high/wide-back heated air-suspension seat adjusts multiple ways for daylong comfort and support.

Joystick steering and hydraulic levers are within easy reach and move with the operator for more control with less fatigue.

Brake and throttle pedals have been repositioned and the front console reshaped to make way for more legroom and comfort.

Automotive-style directional louvers provide effective airflow to help keep the glass clear and pressurized cab comfortable.

You'll find plenty of places to stow a coffee cup, cooler, and other items. Convenient 12-volt port powers cell phones and other electronic devices.

Cab interior is noticeably quiet to help reduce operator fatigue.

1. Spacious front glass,low-profile console, and large side and rear windows allow ten-percent more front glass, low-profile console, and large side and rear windows allow unsurpassed 360-degree visibility.

2. Sealed-switch module gives fingertip control of keyless start and 24 other machine functions. Enables the operator to adjust boom-height kick-out and return-to-carry, and activate return-to-dig from the seat.

3. Platforms, handrails, and steps allow un-interrupted three-point access. There are no crossbars, decreasing the risk of slipping.


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Get in touch with your productive side.

If you want to get a handle on increased productivity, put your operator behind the controls of a K-Series Loader. Its enhanced multifunction LCD color monitor provides a wealth of machine info. And enables an operator to customize machine operation and response, weigh each bucket load, and view the action out back — all at the push of a button.

Multi-language color LCD monitor provides pushbutton access to a wealth of machine info and control:

1. Vital and general operating information, including transmission mode, gear, engine rpms, and ground speed.

2. Advanced onboard diagnostics with sensor information, calibration, and switch checks.

3. Customized machine settings such as Quick Shift, Auto-to-1st, and Ride Control. So you can match operating characteristics to specific jobs and conditions.

4. Optional embedded payload scale weighs each bucket load, helping fill trucks to the max.

5. Optional rearview camera provides "eyes-in-the-back-of-the-head" visibility. And rear-object-detection radar gives an audible alert of approaching objects. It's a "must have" for high-traffic jobsites.

6. On IT4/EU Stage IIIB-equipped loaders, exhaust filter operation and maintenance status are indicated with warning lights and on-screen displays.

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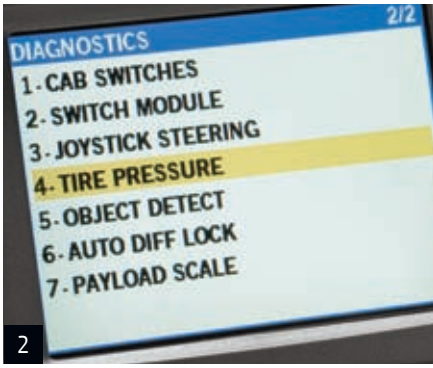

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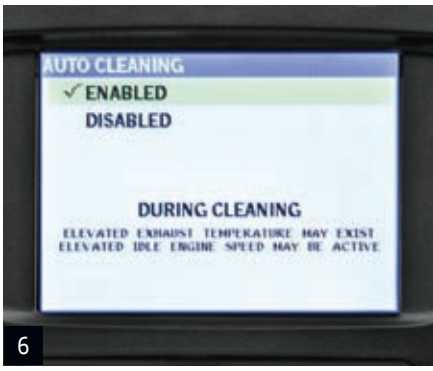

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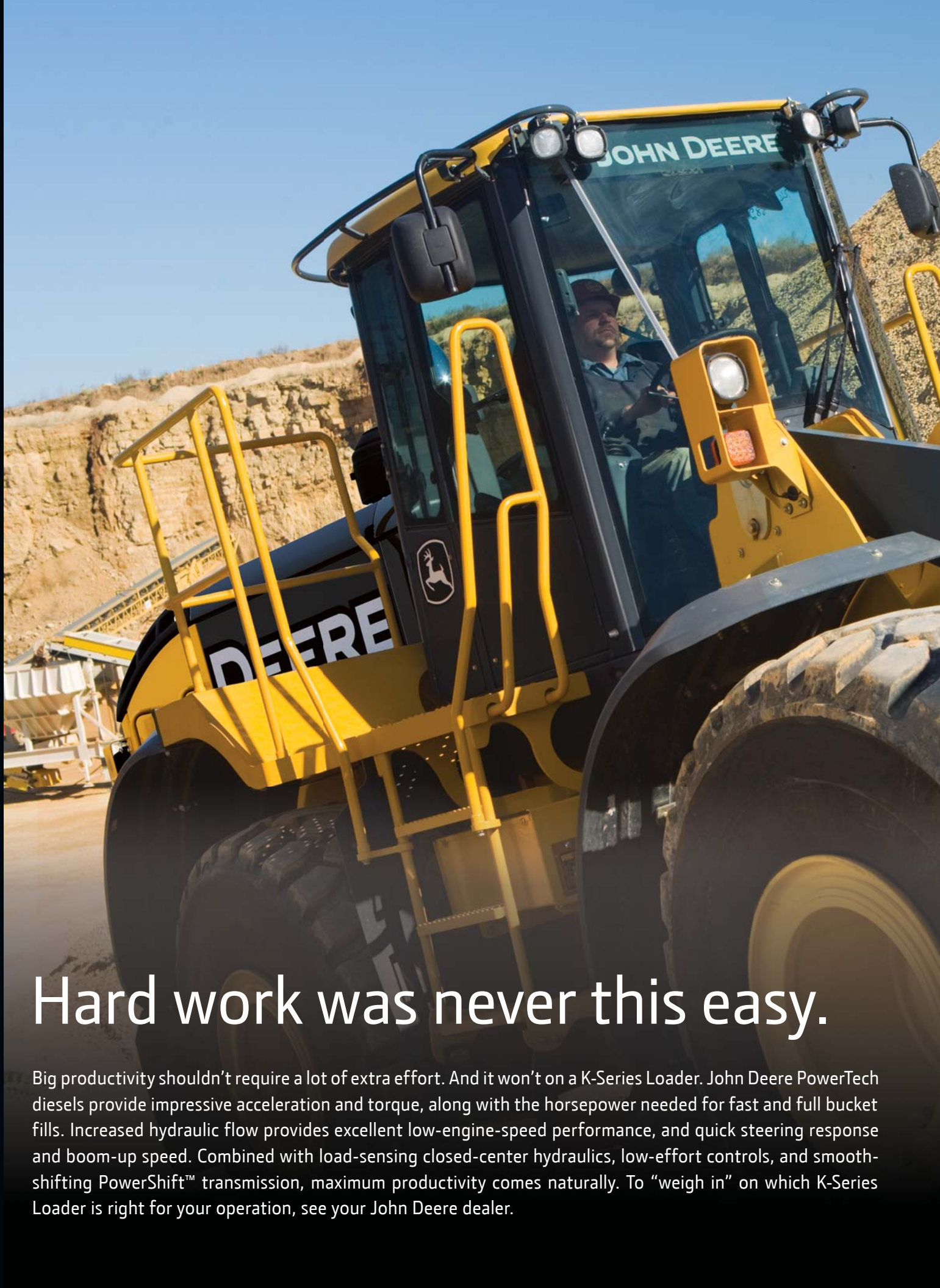
Programmable clutch cutoff increases productivity in all kinds of conditions. Engaging the brakes disconnects the transmission while maintaining high engine speed. For smooth dumps, fast cycles, and no machine rollback.

Boom-height kick-out sets maximum desired dump height, while return-to-carry determines lowered-boom position. Use these two K-Series advantages to speed production in repetitive loading applications.

On 644K Powerllel, return-to-dig places the attachment at pre-determined level position. Switch includes two presets, for increased convenience and productivity in applications requiring frequent attachment changeover.



Hard work was never this easy.

Big productivity shouldn't require a lot of extra effort. And it won't on a K-Series Loader. John Deere PowerTech diesels provide impressive acceleration and torque, along with the horsepower needed for fast and full bucket fills. Increased hydraulic flow provides excellent low-engine-speed performance, and quick steering response and boom-up speed. Combined with load-sensing closed-center hydraulics, low-effort controls, and smooth-shifting PowerShift™ transmission, maximum productivity comes naturally. To "weigh in" on which K-Series Loader is right for your operation, see your John Deere dealer.

SmartShift™ delivers smooth-as-silk gear changes, regardless of whether the bucket is empty or fully loaded.

Optional 5-speed transmission with torque converter lockup in gears 2–5 increases acceleration, speeds cycles, and optimizes power and fuel efficiency during transport, roading, and ramp climbing.

Spin control boosts productivity by improving traction in loose material or troublesome underfoot conditions. Reduces tire wear, fuel costs, and operator fatigue, too.

Automatic differential lock engages as soon as a tire begins to slip. It's ideal for inexperienced operators or high-traction applications. Optional on 644K–824K; unavailable on 844K.

Responsive steering combines with full 80-degree articulation for exceptional maneuverability in tight quarters — and faster cycle times.

Load-sensing closed-center hydraulics deliver only the power required for smooth boom and bucket functions. So there's no wasted power or fuel.

1. Ride control smoothes travel, allowing these loaders to navigate jobsites more quickly without losing their loads. Auto-actuation travel speed is programmable between 3.2 and 24.1 km/h (2 and 15 mph).

2. Choose either single-lever joystick or two-lever fingertip pilot-operated hydraulic controls. Joystick version is equipped with an FNR selector for convenient direction and full-range gear changes. Both include our innovative Quick-Shift feature for pushbutton gear changes, one gear at a time.

3. Joystick steering offers fatigue-beating comfort and is ideal for V-pattern truck loading. Standard on the 844K and available on the other K models, it adapts to ground speed to deliver smooth low-effort control. Even during load-and-carry.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Parallel lift that's simply unparalleled.

You don't have to sacrifice powerful digging forces to get parallel lift. The 644K Powerllel delivers the best of both, so you can have your loader and forklift, too. Unlike traditional tool-carrier linkages, our innovative design allows load forces to work with, not against, the boom. For big breakout force, even in difficult digging. Impressive torque throughout the entire dump and rollback range enables the 644K to excel at a wide variety of material-handling tasks. But don't just look for these Powerllel advantages in the numbers on a spec sheet. The best way to appreciate them is on your jobsite. Whatever the job, whatever the load, you'll discover parallel lift that's without parallel.

1. Unique Y-link, low-mounted boom cylinders, and Hi-Vis coupler provide clearly superior visibility to the work tool and throughout the lift arc.

2. Hi-Vis coupler lets you easily change attachments from the cab. Conforms to ISO23727, allowing it to pick up a broad range of John Deere and other attachments. Coupler keeps the attachment close to the machine, enhancing stability and breakout performance.

3. Unlike tool carriers that lose performance past the level position, the 644K Powerllel delivers outstanding breakout throughout the entire dump and rollback range. To conquer tough tasks such as sorting and loading logs.


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Powerllel's unique design separates the bell crank from the cross tube, attaching instead to the loader frame via a Y-shape link. This "free-floating" bell-crank design increases boom-cylinder torque, for unsurpassed boom and bucket breakout.

Want to test the power of a 644K Powerllel Loader? Attach a bucket and demo one against a comparable-size tool carrier in tough digging. The results will win you over.

Tire and axle options let you equip your 644K Powerllel Loader for material handling on a wide variety of terrain.

Explore your options.

Standard equipped with plenty of production-enhancing features, K-Series Loaders can handle almost anything. But if yours isn't just any application, we've got you covered with a wide variety of factory- or dealer-installed options. Work in a high-debris, extreme-temperature, or corrosive environment? Or emissions-sensitive non-attainment areas? Need a high-lift boom or long-life cutting edges to help maximize productivity and minimize costs? We can equip your loader with exactly what you need for your kind of work.

Axle choices include front differential lock with conventional rear and front and rear differential locks (644K–824K); conventional front and rear and limited-slip front and rear (844K).

Automatic differential lock engages as soon as a tire begins to slip. It's ideal for inexperienced operators or applications requiring continuous high traction.

Powered cab pre-cleaner provides a cleaner interior when working in airborne debris.

Corrosion package shields electrical components and connections for longer life — so corrosion won't short-circuit productivity.

Advanced air-screen kits protect the engine and cooling system from debris while increasing airflow and preventing overheating.

High-lift loaders feature an optional, factory-installed boom that extends reach by 356 to 559 mm (14 to 22 in.) so you can move materials and push productivity to even greater heights.

Heated mirrors prevent fog and ice from obstructing the view and affecting productivity.

1. Available in the 644K, 724K, and 744K, our IT4/EU Stage IIIB technology is simple, fuel efficient, fully integrated, and fully supported. It employs field-proven cooled exhaust gas recirculation (EGR) for reducing NOx, and a diesel particulate filter and diesel oxidation catalyst to reduce particulate matter. Periodic active and passive regeneration automatically cleans the filter without impacting machine productivity.

2. Optional 5-speed transmission with torque converter lockup in gears 2–5 increases acceleration, speeds cycles, and optimizes power and fuel efficiency during transport, roading, and ramp climbing.

3. With greater visibility to the work tool and an improved load path, the Hi-Vis coupler and forks (available on 644K) help both loader and operator be more productive.

4. Embedded payload scale enables you to fill each truck to its limit. Powered by LoadRite™ technology, it's available on all Z-Bar and High-Lift Loaders.

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

When you've got hungry hoppers or empty trucks depending on your loader, downtime is more than a downer. It's unacceptable. Boost your uptime (and your bottom line) with K-Series advantages such as solid-state electronics, highly efficient Quad-Cool,™ advanced diagnostic monitors, and NeverGrease™ pin joints. You'll also benefit from traditional John Deere durability features such as heavy-duty wet-sleeve diesels, self-adjusting wet-disc brakes, four-plate loader towers, and double-tapered articulation-joint roller bearings. Plus, booms and mainframes so tough they're warranted for three years or 10,000 hours. When you know how they're built, you'll run a John Deere.

Large-capacity fuel tanks let you run longer between fill-ups. There's also a fast-fill option to get you back into the rat race more quickly.

You'll find fewer fuses, relays, connectors, and wiring harnesses. Instead, highly reliable circuit-board technology and sealed solid-state switches ensure the electrical integrity you need.

Sealed-switch module keeps out dust, moisture, and debris, so it virtually never wears out. Proven marine-grade touchpad eliminates rocker switches and nearly 100 wires and unsealed connections.

Expansive air-inlet surfaces increase airflow and prevent overheating, while keeping the cooling cores debris free. Three-millimeter side-screen perforations serve as a "first filter."

Automatic park brake, bypass-start protection, continuous handrails, and wide slip-resistant steps and platforms help keep operators out of harm's way.

1. Quad-Cool design places coolers in a unique boxed configuration that's isolated from engine heat for increased efficiency and durability. Optional fan automatically reverses at predetermined intervals, or can be programmed through the monitor, to eject debris from the cores.

2. Bulkhead fittings eliminate long hoses, simplifying replacement and component exchange.

3. Exclusive NeverGrease option's lifetime sealed and lubricated roller bearings and Teflon®-embedded bushings deliver consistent, extended pin-joint life.

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Large hinged service doors swing open wide for ample ground-level access. All daily servicing is done on the same side.

NeverGrease pin joints eliminate numerous zerks and the daily attention they demand. An exclusive K-Series option, they significantly reduce operating cost.

Maintenance personnel will appreciate the common-sense locations and ease with which powertrain, hydraulic, and cab filters are replaced. Common hydraulic and transmission fluid- and filter-change intervals further simplify service.

Coolers resist plugging, and both sides are easily accessible for cleaning. Hydraulically driven fan runs only as needed, reducing fuel consumption and debris flow through the cores.

Lockable compartment swings open, offering convenient ground-level access to batteries and electrical-disconnect switch.

Auto-idle automatically applies the brakes and reduces engine speed to help conserve fuel after an operator-determined period of inactivity. Auto shutdown turns off the engine after an extended time of inactivity.

IT4/EU Stage IIIB diesel particulate filter is easily removed through the top of the engine compartment. Minimum service interval is 5,000 hours, and must be done by a John Deere dealer or other qualified service provider.

The bucks stop here.

Servicing big iron doesn't have to be a big production. And it isn't on a K-Series. Swing open the large side shields and you'll see the many ways these loaders minimize maintenance. Our unique Quad-Cool system and swing-out fan provide wide-open access to both sides of the individually mounted coolers for simplified cleanout. Grouped same-side service points make quick work of the daily routine. Easy-to-read sight gauges, quick-change filters, extended service intervals, and advanced self-diagnostics — plus numerous other time- and money-saving features help make maintenance manageable.

1. Color-coded fluid-sample and diagnostic test ports help speed preventive maintenance and troubleshooting. Noninvasive design helps prevent contamination.

2. If something goes wrong, the easy-to-navigate LCD monitor provides diagnostic info and even offers possible troubleshooting solutions to decrease downtime.

3. Vertical spin-on engine, transmission, and in-tank hydraulic filters; quick-release fuel filters; and environmentally friendly fluid drains allow quick, no-spill changes.

4. 500-, 2,000-, and 4,000-hour engine, transmission, and hydraulic oil and filter intervals decrease planned downtime and expense. Available quick fluid-evacuation system helps speed servicing.

5. Conveniently displayed periodic lubrication and maintenance chart helps ensure that nothing is overlooked.

6. Under-hood light and sight gauges simplify coolant, hydraulic, and transmission fluid-level checks.

644K

Engine	644K Z-BAR / HIGH-LIFT / POWERLLEL™		
Manufacturer and Model	John Deere PowerTech™ PVX 6090	John Deere PowerTech™ Plus 6068H	John Deere PowerTech™ 6068H
Non-Road Emissions Standard	EPA Interim Tier 4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA	EU Stage II
Cylinders	6	6	6
Valves Per Cylinder	4	4	4
Displacement	9.0 L (548 cu. in.)	6.8 L (415 cu. in.)	6.8 L (415 cu. in.)
Net Peak Power at 1,700 rpm	173 kW (232 hp)	173 kW (232 hp)	173 kW (232 hp)
Net Peak Torque at 1,400 rpm	1062 Nm (783 lb.-ft.)	1016 Nm (749 lb.-ft.)	1016 Nm (749 lb.-ft.)
Net Torque Rise	65%	65%	65%
Fuel System (electronically controlled)	High-pressure common rail	High-pressure common rail	High-pressure common rail
Lubrication	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler
Aspiration	Turbocharged, charge air cooled	Turbocharged, charge air cooled	Turbocharged, charge air cooled
Air Cleaner	Under-hood, dual-element dry type, restriction indicator in cab monitor for service	Under-hood, dual-element dry type, restriction indicator in cab monitor for service	Under-hood, dual-element dry type, restriction indicator in cab monitor for service
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers	Hydraulically driven, proportionally controlled, fan aft of coolers	Hydraulically driven, proportionally controlled, fan aft of coolers
Electrical System	24 volt with 80-amp alternator	24 volt with 80-amp alternator	24 volt with 80-amp alternator
Batteries (2 – 12 volt)	950 CCA (each)	950 CCA (each)	950 CCA (each)

Transmission				
Type	Countershaft-type PowerShift™			
Torque Converter	Single stage, single phase			
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 4-Speed		*Optional 5-Speed with Lockup Torque Converter*	
Travel Speeds (with 23.5-25 tires)	*Forward Maximum*	*Reverse Maximum*	*Forward Maximum*	*Reverse Maximum*
Gear 1	7.6 km/h (4.7 mph)	7.9 km/h (4.9 mph)	7.8 km/h (4.8 mph)	8.2 km/h (5.1 mph)
Gear 2	12.6 km/h (7.8 mph)	12.9 km/h (8.0 mph)	13.4 km/h (8.3 mph)	13.6 km/h (8.5 mph)
Gear 3	24.7 km/h (15.3 mph)	24.9 km/h (15.5 mph)	22.6 km/h (14.0 mph)	28.8 km/h (17.9 mph)
Gear 4	36.6 km/h (22.7 mph)	N/A	27.4 km/h (17.0 mph)	N/A
Gear 5	N/A	N/A	40.0 km/h (24.9 mph)	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 23.5-25 tires)	26 deg.		
Brakes (conform to ISO 3450)			
Service Brakes	Hydraulically actuated, inboard sun-shaft mounted, oil cooled, self adjusting, single disc		
Parking Brake	Automatic spring applied, hydraulically released, driveline mounted, oil cooled, multi disc		

Tires/Wheels			
Choice of (with 3-piece rims)*	*Tread Width*	*Width Over Tires*	*Change In Vertical Height*
23.5 R 25, 1 Star L-3	2170 mm (85.4 in.)	2875 mm (113.2 in.)	standard
23.5 R 25, 1 Star L-3 ($CaCl_2$ in rear tires)	2170 mm (85.4 in.)	2875 mm (113.2 in.)	standard
23.5-25, 20 PR L-3[ß]	2170 mm (85.4 in.)	2899 mm (114.1 in.)	+ 7 mm (+ 0.3 in.)
750/65 R 25, 1 Star L-3T[ß§]	2204 mm (86.8 in.)	3013 mm (118.6 in.)	+ 9 mm (+ 0.4 in.)

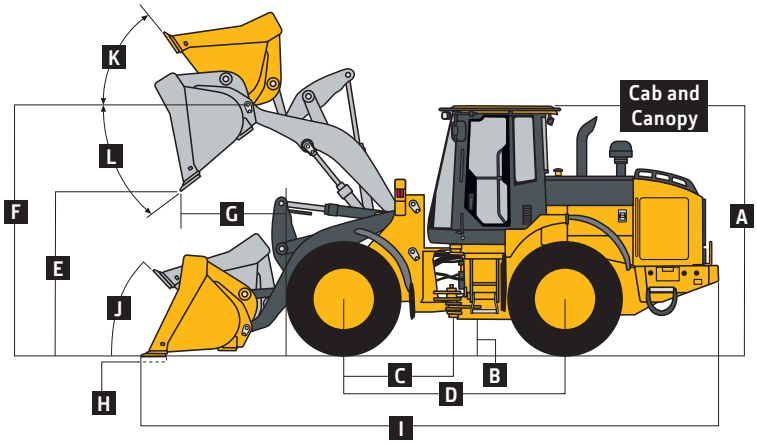
**Based on Z-bar machine configuration; may change based on vehicle configuration, weight, or tire-pressure adjustments.*

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

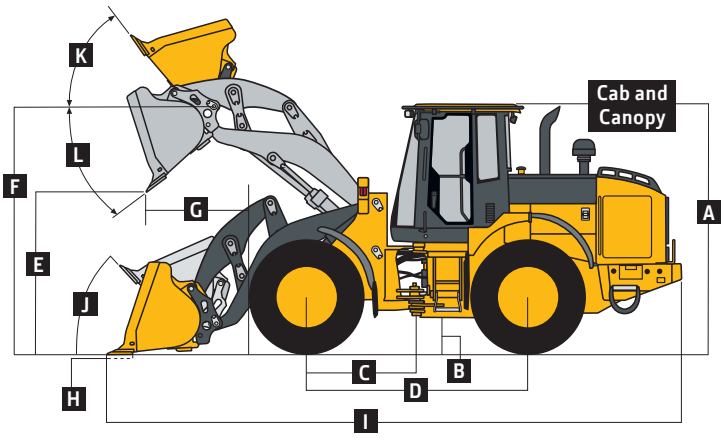
[†]Equipped with 1-piece rims.

[§]Requires 9-deg. rear axle stops.

Serviceability	644K Z-BAR / HIGH-LIFT / POWERLLEL™		
Refill Capacities			
Fuel Tank (with ground-level fueling)	397 L (105 gal.)		
Cooling System	43.5 L (46 qt.)		
Engine Oil with Vertical Spin-On Filter	28 L (29.5 qt.)		
Transmission Fluid with Vertical Filter	27 L (28.5 qt.)		
Axle Oil (front and rear)	22 L (23 qt.)		
Hydraulic Reservoir and Filters	110 L (29 gal.)		
Park Brake Oil (wet disc)	0.6 L (20 oz.)		
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 2,350 rpm	310 L/m (82 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)		
Hydraulic Cycle Times	***Z-Bar***	***High-Lift***	***Powerllel***
Raise	6.4 sec.	6.4 sec.	6.4 sec.
Dump	1.6 sec.	1.6 sec.	2.1 sec.
Lower (float down)	3.0 sec.	3.0 sec.	2.8 sec.
Total	11.0 sec.	11.0 sec.	11.3 sec.
Turning Radius (measured to centerline of outside tire)	5.57 m (18 ft. 3 in.)		
Dimensions with Standard Configuration	**Z-BAR**	**HIGH-LIFT**	**POWERLLEL**
	3.2-m³ (4.25 cu. yd.) pin-on bucket	*3.2-m³ (4.25 cu. yd.) pin-on bucket*	*3.1-m³ (4.0 cu. yd.) hook-on bucket with coupler*
A Height to Top of Cab and Canopy	3.43 m (11 ft. 3 in.)	3.43 m (11 ft. 3 in.)	3.43 m (11 ft. 3 in.)
B Ground Clearance	461 mm (18.1 in.)	461 mm (18.1 in.)	461 mm (18.1 in.)
C Length from Centerline to Front Axle	1.60 m (5 ft. 3 in.)	1.60 m (5 ft. 3 in.)	1.60 m (5 ft. 3 in.)
D Wheelbase	3.26 m (10 ft. 8 in.)	3.26 m (10 ft. 8 in.)	3.26 m (10 ft. 8 in.)
E Dump Clearance	▲ (see page 21)	▲ (see page 21)	▲ (see page 22)
F Height to Hinge Pin, Fully Raised	4.12 m (13 ft. 6 in.)	4.54 m (14 ft. 11 in.)	4.12 m (13 ft. 6 in.)
G Dump Reach	▲▲ (see page 21)	▲▲ (see page 21)	▲▲ (see page 22)
H Maximum Digging Depth	106 mm (4.2 in.)	200 mm (7.9 in.)	91 mm (3.6 in.)
I Overall Length	▲▲▲ (see page 21)	▲▲▲ (see page 21)	▲▲▲ (see page 22)
J Maximum Rollback at Ground Level	42 deg.	41 deg.	41 deg.
K Maximum Rollback, Boom Fully Raised	55 deg.	47 deg.	55 deg.
L Maximum Bucket Angle, Fully Raised	50 deg.	45 deg.	50 deg.

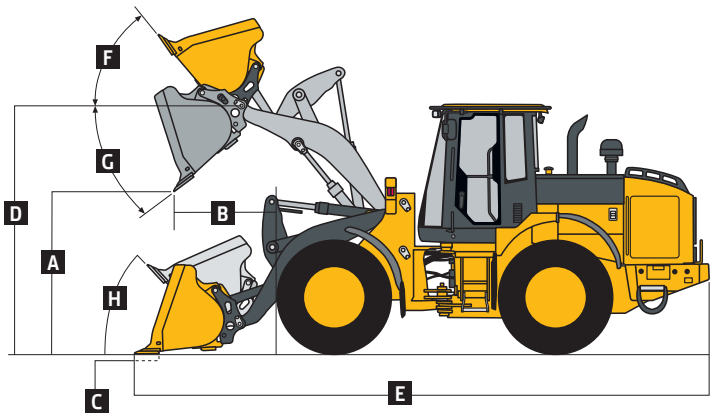


644K Z-BAR AND HIGH-LIFT LOADERS

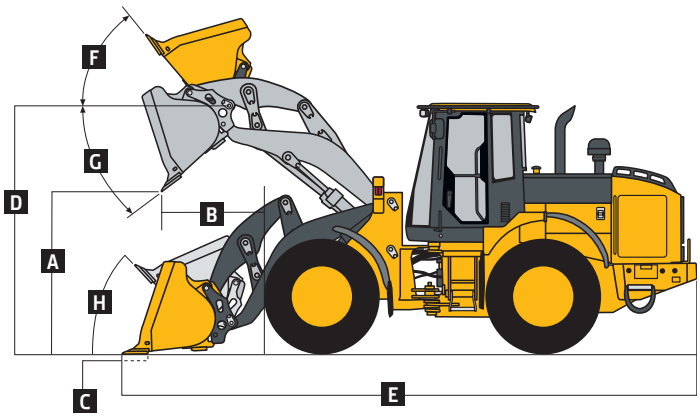


644K POWERLLEL LOADER

Dimensions with Hi-Vis Quick-Coupler and Hook-On Bucket		644K Z-BAR	HIGH-LIFT	POWERLLEL™
A	Dump Clearance	▲ (see page 21)	▲ (see page 22)	▲ (see page 22)
B	Dump Reach	▲▲ (see page 21)	▲▲ (see page 22)	▲▲ (see page 22)
C	Maximum Digging Depth	139 mm (5.0 in.)	226 mm (9.0 in.)	91 mm (3.6 in.)
D	Height to Hinge Pin, Fully Raised	4.12 m (13 ft. 6 in.)	4.54 m (14 ft. 11 in.)	4.12 m (13 ft. 6 in.)
E	Overall Length	▲▲▲ (see page 21)	▲▲▲ (see page 22)	▲▲▲ (see page 22)
F	Maximum Rollback, Boom Fully Raised	55 deg.	47 deg.	55 deg.
G	Maximum Bucket Angle, Fully Raised	45 deg.	45 deg.	50 deg.
H	Maximum Rollback at Ground Level	42 deg.	42 deg.	41 deg.

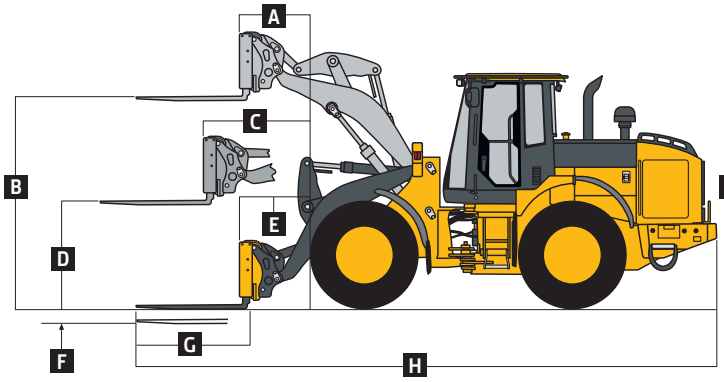


644K Z-BAR AND HIGH-LIFT LOADERS WITH QUICK-COUPLER AND HOOK-ON BUCKET

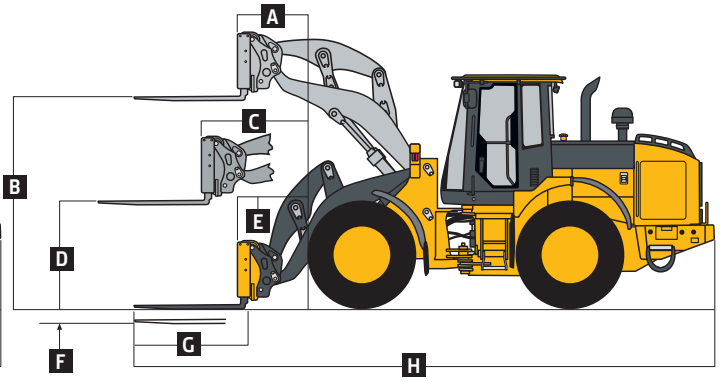


644K POWERLLEL LOADER WITH QUICK-COUPLER AND HOOK-ON BUCKET

Dimensions with Hi-Vis Quick-Coupler and Hook-On Construction Fork		Z-BAR	HIGH-LIFT	POWERLLEL	
				Construction	*Rockland Logging*
A	Reach, Fully Raised	788 mm (31.0 in.)	905 mm (35.6 in.)	819 mm (32.2 in.)	932 mm (37.0 in.)
B	Fork Height, Fully Raised	3.89 m (12 ft. 9.0 in.)	4.22 m (13 ft. 10.1 in.)	3.79 m (12 ft. 5.0 in.)	3.83 m (12 ft. 7.0 in.)
C	Maximum Reach, Fork Level	1.68 m (5 ft. 6.0 in.)	2.07 m (6 ft. 9.5 in.)	1.76 m (5 ft. 9.0 in.)	1.87 m (6 ft. 2.0 in.)
D	Maximum Reach, Fork Height	1.71 m (5 ft. 7.0 in.)	1.86 m (6 ft. 1.2 in.)	1.71 m (5 ft. 7.0 in.)	1.76 m (5 ft. 9.0 in.)
E	Reach, Ground Level	1.17 m (3 ft. 10.0 in.)	1.64 m (5 ft. 4.6 in.)	1.22 m (4 ft. 0 in.)	1.31 m (4 ft. 4.0 in.)
F	Depth Below Ground	89 mm (4.0 in.)	181 mm (7.1 in.)	38 mm (1.5 in.)	0 mm (0 in.)
G	Tine Length	▲ (see page 22)	▲ (see page 22)	▲ (see page 22)	▲ (see page 22)
H	Overall Length	▲▲ (see page 22)	▲▲ (see page 22)	▲▲ (see page 22)	▲▲ (see page 22)



644K Z-BAR AND HIGH-LIFT LOADERS WITH QUICK-COUPLER AND HOOK-ON CONSTRUCTION FORK



644K POWERLLEL LOADER WITH QUICK-COUPLER AND HOOK-ON CONSTRUCTION FORK

Dimensions with Pin-on Bucket	644K Z-BAR	HIGH-LIFT
Bucket Type/Size	*General-Purpose with Bolt-on Edge*	*General-Purpose with Bolt-on Edge*
Capacity, Heaped	3.2 m^3 (4.25 cu. yd.)	3.2 m^3 (4.25 cu. yd.)
Capacity, Struck	2.8 m^3 (3.7 cu. yd.)	2.8 m^3 (3.7 cu. yd.)
Bucket Weight	1735 kg (3,826 lb.)	1736 kg (3,827 lb.)
Bucket Width	3.04 m (10 ft. 0 in.)	3.04 m (10 ft. 0 in.)
Breakout Force	15 378 kg (33,903 lb.)	13 782 kg (30,384 lb.)
Tipping Load, Straight	14 906 kg (32,862 lb.)	12 237 kg (26,978 lb.)
Tipping Load, 40-deg. Full Turn	12 879 kg (28,393 lb.)	10 508 kg (23,165 lb.)
Reach, 45-deg. Dump, 2.13-m (7 ft.) Clearance	1.61 m (5 ft. 3.4 in.)	2.06 m (6 ft. 9.1 in.)
▲▲ Reach, 45-deg. Dump, Full Height	1.06 m (3 ft. 5.7 in.)	1.19 m (3 ft. 10.9 in.)
▲ Dump Clearance, 45 deg., Full Height	2.91 m (9 ft. 6.5 in.)	3.33 m (10 ft. 11.1 in.)
▲▲▲ Overall Length, Bucket on Ground	8.10 m (26 ft. 6.8 in.)	8.57 m (28 ft. 1.4 in.)
Loader Clearance Circle, Bucket Carry Position	13.19 m (43 ft. 3.1 in.)	13.62 m (44 ft. 8.2 in.)
Operating Weight	18 333 kg (40,406 lb.)	18 700 kg (41,215 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech™ PVX 6090 (EPA Interim Tier 4/EU Stage IIIB) 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.

Dimensions with Hi-Vis Quick-Coupler and Hook-on Bucket	Z-BAR	HIGH-LIFT	POWERLLEL™
Bucket Type/Size	*General-Purpose with Bolt-on Edge*	*General-Purpose with Bolt-on Edge*	*General-Purpose with Bolt-on Edge*
Capacity, Heaped	3.1 m^3 (4.0 cu. yd.)	3.1 m^3 (4.0 cu. yd.)	3.0 m^3 (4.0 cu. yd.)
Capacity, Struck	2.7 m^3 (3.6 cu. yd.)	2.7 m^3 (3.6 cu. yd.)	2.6 m^3 (3.5 cu. yd.)
Bucket Weight with Coupler	2124 kg (4,682 lb.)	2124 kg (4,682 lb.)	2085 kg (4,597 lb.)
Bucket Width	3.00 m (9 ft. 10 in.)	3.00 m (9 ft. 10 in.)	3.04 m (10 ft. 0 in.)
Breakout Force	13 664 kg (30,124 lb.)	12 242 kg (26,989 lb.)	12 029 kg (26,519 lb.)
Tipping Load, Straight	13 586 kg (29,952 lb.)	11 125 kg (24,527 lb.)	12 877 kg (28,388 lb.)
Tipping Load, 40-deg. Full Turn	11 682 kg (25,754 lb.)	9496 kg (20,934 lb.)	11 051 kg (24,364 lb.)
Reach, 45-deg. Dump, 2.13-m (7 ft.) Clearance	1.64 m (5 ft. 5 in.)	2.10 m (6 ft. 11 in.)	1.74 m (5 ft. 9 in.)
▲▲ Reach, 45-deg. Dump, Full Height	1.16 m (3 ft. 10 in.)	1.28 m (4 ft. 2 in.)	1.20 m (3 ft. 11 in.)
▲ Dump Clearance, 45 deg., Full Height	2.79 m (9 ft. 2 in.)	3.11 m (10 ft. 2 in.)	2.79 m (9 ft. 2 in.)
▲▲▲ Overall Length, Bucket on Ground	8.27 m (27 ft. 2 in.)	8.74 m (28 ft. 8 in.)	8.50 m (27 ft. 11 in.)
Loader Clearance Circle, Bucket Carry Position	13.28 m (43 ft. 7 in.)	13.72 m (45 ft. 0 in.)	13.36 m (43 ft. 10 in.)
Operating Weight	18 724 kg (41,268 lb.)	19 091 kg (42,077 lb.)	19 966 kg (44,005 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PVX 6090 (EPA Interim Tier 4/EU Stage IIIB) 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.

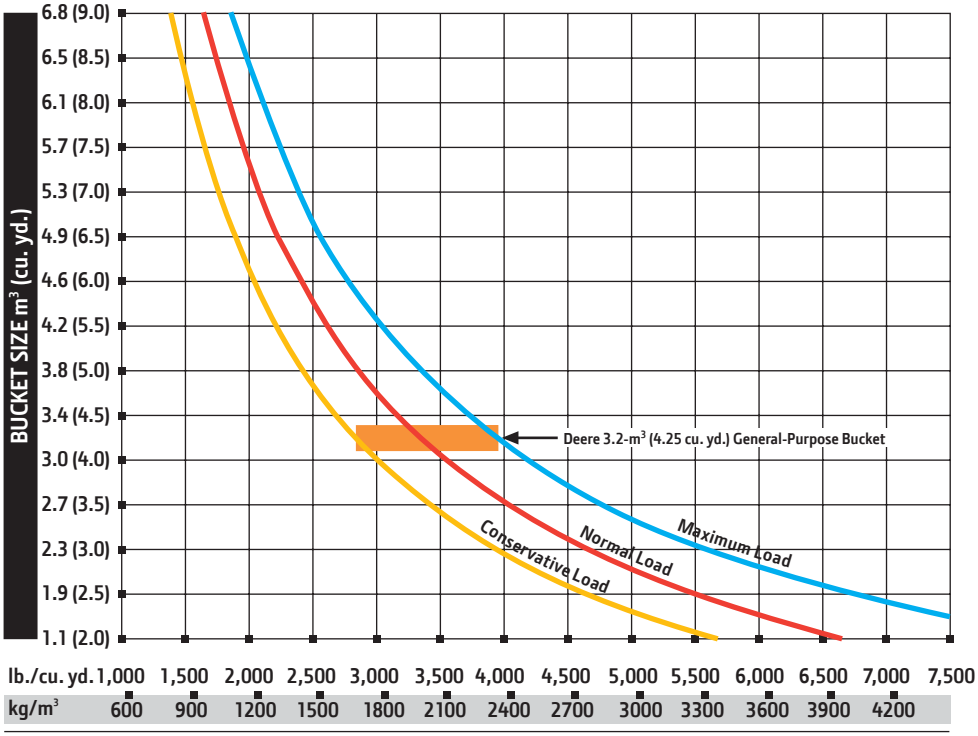
Specifications with Hi-Vis Quick-Coupler and Hook-on Construction Fork	Z-BAR		HIGH-LIFT		POWERLLEL		
					Construction		*Rockland Logging**
▲ Tine Length	*1.52 m (60 in.)*	*1.83 m (72 in.)*	*1.52 m (60 in.)*	*1.83 m (72 in.)*	*1.52 m (60 in.)*	*1.83 m (72 in.)*	*1.52 m (60 in.)*
▲▲ Overall Length	8.81 m (28 ft. 11 in.)	9.11 m (29 ft. 11 in.)	9.28 m (30 ft. 5.4 in.)	9.58 m (31 ft. 5 in.)	9.04 m (29 ft. 8 in.)	9.34 m (30 ft. 8 in.)	9.13 m (29 ft. 11 in.)
Tipping Load, Straight (fork level, load centered and positioned at 50% tine length)	9913 kg (21,855 lb.)	9402 kg (20,727 lb.)	8764 kg (19,322 lb.)	8343 kg (18,393 lb.)	9857 kg (21,730 lb.)	9354 kg (20,623 lb.)	8745 kg (19,280 lb.)
Tipping Load, 40-deg. Full Turn (fork level, load centered and positioned at 50% tine length)	8562 kg (18,877 lb.)	8111 kg (17,881 lb.)	7527 kg (16,593 lb.)	7155 kg (15,774 lb.)	8502 kg (18,746 lb.)	8060 kg (17,769 lb.)	7428 kg (16,376 lb.)
Operating Weight	18 253 kg (40,230 lb.)	18 313 kg (40,362 lb.)	18 620 kg (41,038 lb.)	18 680 kg (41,170 lb.)	19 494 kg (42,966 lb.)	19 554 kg (43,098 lb.)	20 472 kg (45,120 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PVX 6090 (EPA Interim Tier 4/EU Stage IIIB) 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.

**With logging tires and rims, and optional forestry counterweight package.*

Adjustments to Operating Weights and Tipping Loads with Buckets	644K Z-BAR / HIGH-LIFT / POWERLLEL™		
Adjustments to operating weights and tipping loads are based on Z-bar machine and standard equipment with pin-on 3.2-m³ (4.25 cu. yd.) general-purpose bucket with bolt-on cutting edge, ROPS cab, 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 and	*Operating Weight*	*Tipping Load, Straight*	*Tipping Load, 40-deg. Full Turn SAE*
John Deere PowerTech™ PVX 6090	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
John Deere PowerTech™ Plus 6068H	– 77 kg (– 169 lb.)	+ 206 kg (+ 454 lb.)	+ 145 kg (+ 320 lb.)
John Deere PowerTech™ 6068H	– 103 kg (– 227 lb.)	+ 161 kg (+ 355 lb.)	+ 106 kg (+ 234 lb.)
23.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
23.5 R 25, 1 Star L-3 ($CaCl_2$ in rear tires)	+ 1167 kg (+ 2,573 lb.)	+ 1542 kg (+ 3,400 lb.)	+ 1358 kg (+ 2,995 lb.)
23.5-25, 20 PR L-3[ß]	+ 8 kg (+ 18 lb.)	+ 5 kg (+ 11 lb.)	+ 4 kg (+ 9 lb.)
750/65 R 25, 1 Star L-3T[ß§]	+ 612 kg (+1,349 lb.)	+ 404 kg (+891 lb.)	+ 356 kg (+ 784 lb.)
**May change based on vehicle configuration, weight, or tire-pressure adjustments.*			
[ß]Equipped with 5-piece heavy-duty rims.			
[†]Equipped with 1-piece rims.			
[§]Requires 9-deg. rear axle stops.			

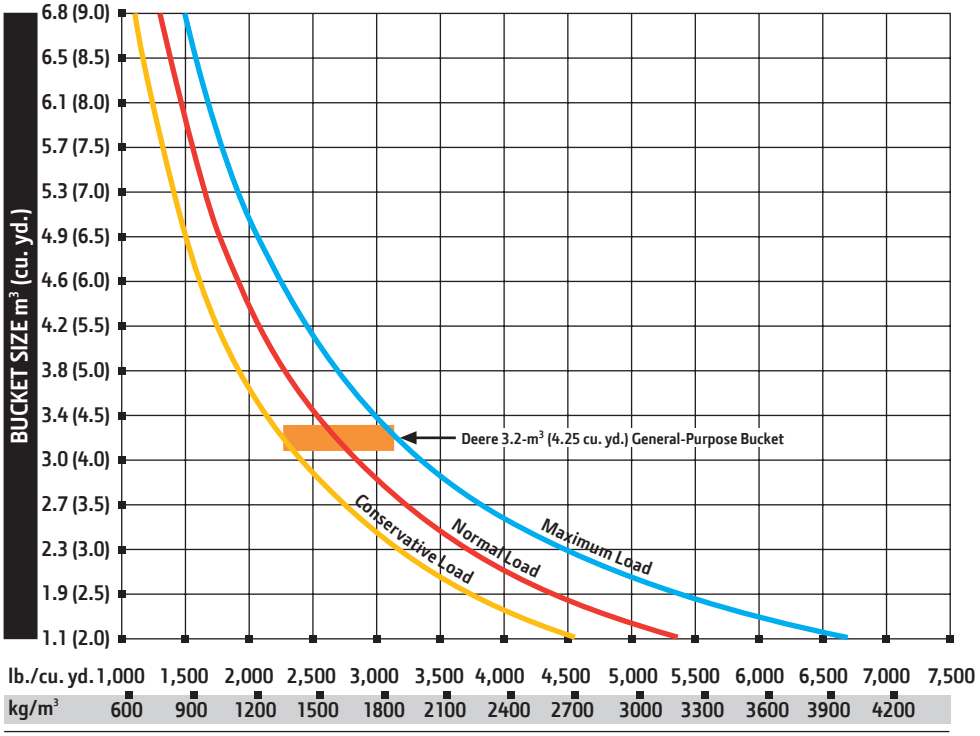
Bucket Selection Guides* **644K Z-BAR**



644K Z-BAR LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

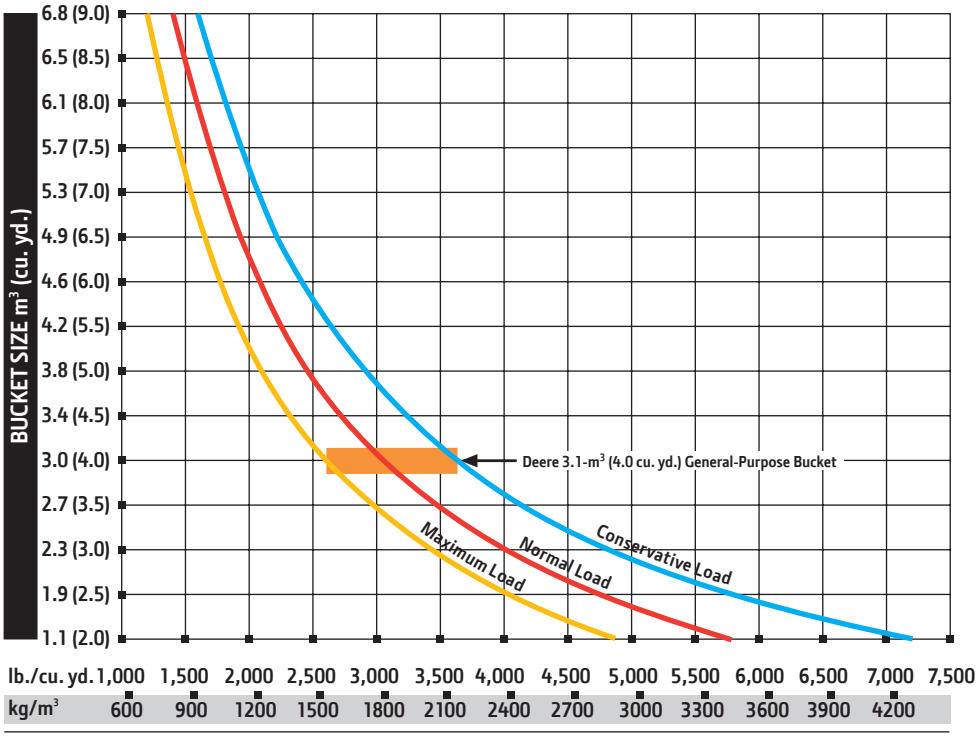
*This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.



644K HIGH-LIFT LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

* This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.



644K POWERLLEL LOADER WITH QUICK-COUPLER AND HOOK-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

* This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.

724K

Engine	**724K Z-BAR / HIGH-LIFT**		
Manufacturer and Model	John Deere PowerTech™ PVX 6090	John Deere PowerTech™ Plus 6090H	John Deere PowerTech™ 6090H
Non-Road Emissions Standard	EPA Interim Tier 4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA	EU Stage II
Cylinders	6	6	6
Valves Per Cylinder	4	4	4
Displacement	9.0 L (548 cu. in.)	9.0 L (548 cu. in.)	9.0 L (548 cu. in.)
Net Peak Power at 1,800 rpm	197 kW (264 hp)	197 kW (264 hp)	197 kW (264 hp)
Net Peak Torque at 1,300 rpm	1161 Nm (856 lb.-ft.)	1159 Nm (852 lb.-ft.)	1158 Nm (852 lb.-ft.)
Net Torque Rise	61%	60%	60%
Fuel System (electronically controlled)	High-pressure common rail	High-pressure common rail	High-pressure common rail
Lubrication	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler
Aspiration	Turbocharged, charge air cooled	Turbocharged, charge air cooled	Turbocharged, charge air cooled
Air Cleaner	Dual-element dry type	Dual-element dry type	Dual-element dry type
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers	Hydraulically driven, proportionally controlled, fan aft of coolers	Hydraulically driven, proportionally controlled, fan aft of coolers
Electrical System	24 volt with 100-amp alternator	24 volt with 80-amp alternator	24 volt with 80-amp alternator
Batteries (2 – 12 volt)	1,400 CCA (each)	1,400 CCA (each)	1,400 CCA (each)

Transmission				
Type	Countershaft-type PowerShift™			
Torque Converter	Single stage, single phase			
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 4-Speed		*Optional 5-Speed with Lockup Torque Converter*	
Travel Speeds (with 23.5 R 25, 1 Star L3 tires)	*Forward Maximum*	*Reverse Maximum*	*Forward Maximum*	*Reverse Maximum*
Gear 1	7.2 km/h (4.5 mph)	7.6 km/h (4.7 mph)	7.5 km/h (4.7 mph)	7.9 km/h (4.9 mph)
Gear 2	11.9 km/h (7.4 mph)	12.5 km/h (7.8 mph)	13.4 km/h (8.3 mph)	13.0 km/h (8.1 mph)
Gear 3	23.1 km/h (14.4 mph)	24.2 km/h (15.1 mph)	22.6 km/h (14.0 mph)	28.8 km/h (17.9 mph)
Gear 4	35.6 km/h (22.1 mph)	N/A	27.4 km/h (17.0 mph)	N/A
Gear 5	N/A	N/A	40.0 km/h (24.9 mph)	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 23.5 R 25, 1 Star L3 tires)	26 deg.	
Brakes (conform to ISO 3450)		
Service Brakes	Hydraulically actuated, inboard, carrier mounted, pressure oil cooled, self adjusting, multi disc	
Parking Brake	Automatic spring applied, hydraulically released, oil cooled, multi disc	

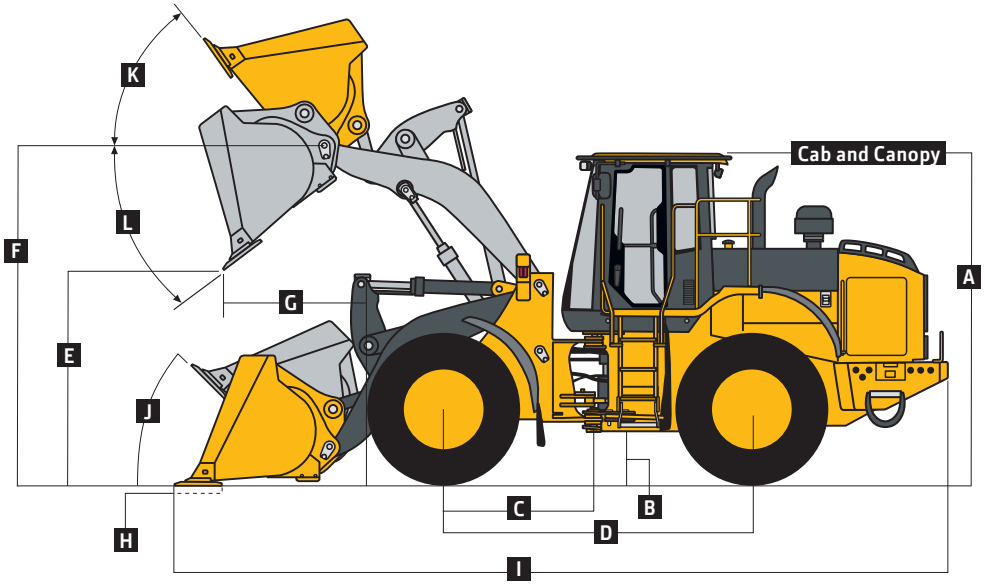
Tires/Wheels			
Choice of (with 5-piece rims)*	*Tread Width*	*Width Over Tires*	*Change In Vertical Height*
23.5 R 25, 1 Star L-3	2170 mm (85.4 in.)	2880 mm (113.4 in.)	standard
23.5-25, 20 PR L-3	2170 mm (85.4 in.)	2893 mm (113.9 in.)	+ 13 mm (+ 0.5 in.)
750/65 R 25, 1 Star L-3T[§]	2204 mm (86.8 in.)	3018 mm (118.8 in.)	+ 8 mm (+ 0.3 in.)

**Based on Z-bar machine configuration; may change based on vehicle configuration, weight, or tire-pressure adjustments.*

[β]Requires 9-deg. rear axle stops.

[†]Equipped with 1-piece rims.

Serviceability	724K Z-BAR / HIGH-LIFT	
Refill Capacities		
Fuel Tank (with ground-level fueling)	397 L (105 gal.)	
Cooling System	43.5 L (46 qt.)	
Engine Oil with Vertical Spin-On Filter	28 L (30 qt.)	
Transmission Fluid with Vertical Filter	27 L (28.5 qt.)	
Axle Oil (front and rear)	22 L (23 qt.)	
Hydraulic Reservoir and Filters	110 L (29 gal.)	
Park Brake Oil (wet disc)	0.6 L (20 oz.)	
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 2,250 rpm	310 L/m (82 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)	
Hydraulic Cycle Times	***Z-Bar***	***High-Lift***
Raise	6.4 sec.	6.4 sec.
Dump	1.4 sec.	1.6 sec.
Lower (float down)	3.0 sec.	3.0 sec.
Total	10.8 sec.	11.0 sec.
Turning Radius (measured to centerline of outside tire)	5.64 m (18 ft. 6 in.)	
Dimensions with Standard Configuration	**Z-BAR**	**HIGH-LIFT**
	3.6-m³ (4.75 cu. yd.) pin-on bucket	*3.2-m³ (4.25 cu. yd.) pin-on bucket*
A Height to Top of Cab and Canopy	3.43 m (11 ft. 3 in.)	3.43 m (11 ft. 3 in.)
B Ground Clearance	461 mm (18.1 in.)	461 mm (18.1 in.)
C Length from Centerline to Front Axle	1.60 m (5 ft. 3 in.)	1.60 m (5 ft. 3 in.)
D Wheelbase	3.26 m (10 ft. 8 in.)	3.26 m (10 ft. 8 in.)
E Dump Clearance	▲ (see page 26)	▲ (see page 26)
F Height to Hinge Pin, Fully Raised	4.12 m (13 ft. 6 in.)	4.54 m (14 ft. 11 in.)
G Dump Reach	▲▲ (see page 26)	▲▲ (see page 26)
H Maximum Digging Depth	123 mm (5.0 in.)	216 mm (8.5 in.)
I Overall Length	▲▲▲ (see page 26)	▲▲▲ (see page 26)
J Maximum Rollback at Ground Level	40.6 deg.	41.6 deg.
K Maximum Rollback, Boom Fully Raised	55.1 deg.	47.2 deg.
L Maximum Bucket Angle, Fully Raised	50.1 deg.	45.0 deg.



724K Z-BAR AND HIGH-LIFT LOADERS

Dimensions with Pin-on Bucket	724K Z-BAR		HIGH-LIFT	
Bucket Type/Size	*General-Purpose with Bolt-on Edge*	*General-Purpose with Bolt-on Edge*	*General-Purpose with Bolt-on Edge*	*General-Purpose with Bolt-on Edge*
Capacity, Heaped	3.6 m^3 (4.75 cu. yd.)	3.2 m^3 (4.25 cu. yd.)	3.6 m^3 (4.75 cu. yd.)	3.2 m^3 (4.25 cu. yd.)
Capacity, Struck	3.2 m^3 (4.2 cu. yd.)	3.0 m^3 (3.5 cu. yd.)	3.2 m^3 (4.2 cu. yd.)	2.8 m^3 (3.7 cu. yd.)
Bucket Weight	1822 kg (4,016 lb.)	1736 kg (3,827 lb.)	1822 kg (4,017 lb.)	1736 kg (3,827 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	14 398 kg (31,742 lb.)	15 607 kg (34,408 lb.)	12 968 kg (28,590 lb.)	13 884 kg (30,610 lb.)
Tipping Load, Straight	16 392 kg (36,138 lb.)	16 516 kg (36,412 lb.)	13 087 kg (28,851 lb.)	13 291 kg (29,303 lb.)
Tipping Load, 40-deg. Full Turn	14 132 kg (31,155 lb.)	14 253 kg (31,421 lb.)	11 222 kg (24,740 lb.)	11 412 kg (25,160 lb.)
Reach, 45-deg. Dump, 2.13-m (7 ft.) Clearance	1.67 m (5 ft. 6 in.)	1.61 m (5 ft. 3 in.)	2.12 m (6 ft. 11 in.)	2.06 m (6 ft. 9 in.)
▲▲ Reach, 45-deg. Dump, Full Height	1.13 m (3 ft. 9 in.)	1.06 m (3 ft. 6 in.)	1.25 m (4 ft. 1 in.)	1.19 m (3 ft. 11 in.)
▲ Dump Clearance, 45 deg., Full Height	2.84 m (9 ft. 4 in.)	2.91 m (9 ft. 7 in.)	3.26 m (10 ft. 8 in.)	3.33 m (10 ft. 11 in.)
▲▲▲ Overall Length, Bucket on Ground	8.31 m (27 ft. 3 in.)	8.20 m (26 ft. 11 in.)	8.78 m (28 ft. 10 in.)	8.67 m (28 ft. 5 in.)
Loader Clearance Circle, Bucket Carry Position	13.25 m (43 ft. 6 in.)	13.19 m (43 ft. 3 in.)	13.68 m (44 ft. 11 in.)	13.62 m (44 ft. 8 in.)
Operating Weight	19 264 kg (42,457 lb.)	19 171 kg (42,253 lb.)	19 486 kg (42,947 lb.)	19 397 kg (42,752 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech™ PVX 6090 (EPA Interim Tier 4/EU Stage IIIB) 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.

Dimensions with Hi-Vis Quick-Coupler and Hook-on Bucket	Z-BAR	HIGH-LIFT
Bucket Type/Size	*General-Purpose with Bolt-on Edge*	*General-Purpose with Bolt-on Edge*
Capacity, Heaped	3.1 m^3 (4.0 cu. yd.)	3.1 m^3 (4.0 cu. yd.)
Capacity, Struck	2.4 m^3 (3.2 cu. yd.)	2.7 m^3 (3.6 cu. yd.)
Bucket Weight with Coupler	1764 kg (3,890 lb.)	2124 kg (4,682 lb.)
Bucket Width	2.90 m (9 ft. 6 in.)	3.00 m (9 ft. 10 in.)
Breakout Force	14 524 kg (32,019 lb.)	12 404 kg (27,346 lb.)
Tipping Load, Straight	15 110 kg (33,312 lb.)	12 122 kg (26,724 lb.)
Tipping Load, 40-deg. Full Turn	12 982 kg (28,620 lb.)	10 351 kg (22,819 lb.)
Reach, 45-deg. Dump, 2.13-m (7 ft.) Clearance	1.72 m (5 ft. 8 in.)	2.10 m (6 ft. 11 in.)
▲▲ Reach, 45-deg. Dump, Full Height	1.15 m (3 ft. 9 in.)	1.28 m (4 ft. 2 in.)
▲ Dump Clearance, 45 deg., Full Height	2.88 m (9 ft. 6 in.)	3.11 m (10 ft. 2 in.)
▲▲▲ Overall Length, Bucket on Ground	8.20 m (26 ft. 11 in.)	8.74 m (28 ft. 8 in.)
Loader Clearance Circle, Bucket Carry Position	12.93 m (42 ft. 5 in.)	13.72 m (45 ft. 0 in.)
Operating Weight	19 562 kg (43,115 lb.)	19 788 kg (43,613 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PVX 6090 (EPA Interim Tier 4/EU Stage IIIB) 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.

Specifications with Hi-Vis Quick-Coupler and Hook-on Construction Fork	Z-BAR		HIGH-LIFT	
▲ Tine Length	*1.52 m (60 in.)*	*1.83 m (72 in.)*	*1.52 m (60 in.)*	*1.83 m (72 in.)*
▲▲ Overall Length	8.89 m (29 ft. 2 in.)	9.19 m (30 ft. 2 in.)	9.35 m (30 ft. 8 in.)	9.65 m (31 ft. 8 in.)
Tipping Load, Straight (fork level, load centered and positioned at 50% tine length)	10 995 kg (24,239 lb.)	10 434 kg (23,004 lb.)	9521 kg (20,991 lb.)	9069 kg (19,994 lb.)
Tipping Load, 40-deg. Full Turn (fork level, load centered and positioned at 50% tine length)	9485 kg (20,910 lb.)	8992 kg (19,824 lb.)	8176 kg (18,025 lb.)	7778 kg (17,148 lb.)
Operating Weight	19 091 kg (42,076 lb.)	19 151 kg (42,209 lb.)	19 317 kg (42,574 lb.)	19,377 kg (42,706 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PVX 6090 (EPA Interim Tier 4/EU Stage IIIB) 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.

**With logging tires and rims, and optional forestry counterweight package.*

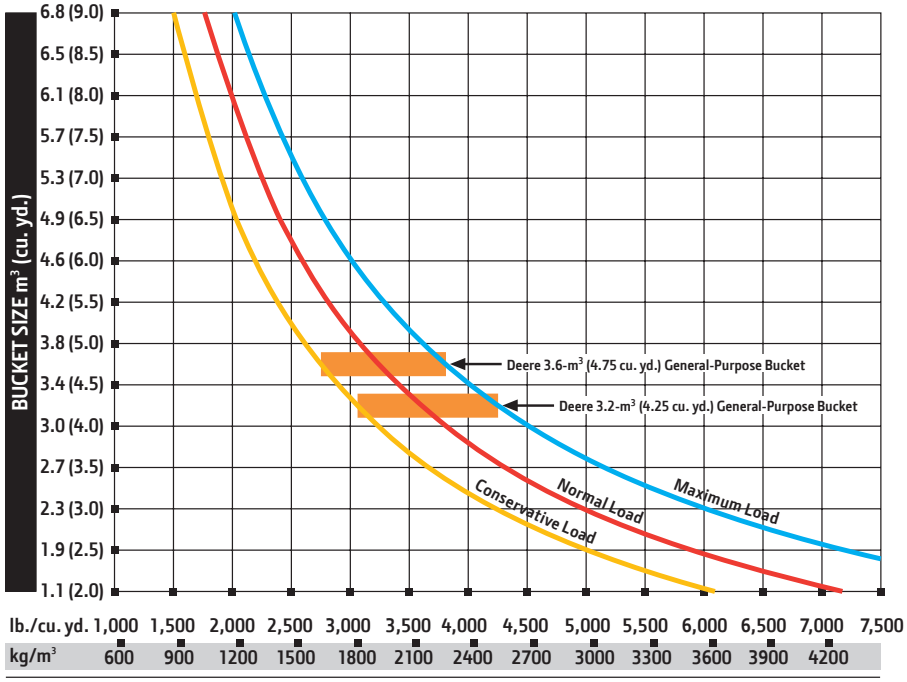
Adjustments to Operating Weights and Tipping Loads with Buckets	724K Z-BAR / HIGH-LIFT		
Adjustments to operating weights and tipping loads are based on Z-bar machine and pin-on 3.6-m³ (4.75 cu. yd.) general-purpose bucket with bolt-on cutting edge, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator*			
Add (+) or deduct (–) kg (lb.) as indicated for loaders with 5-piece rims and	*Operating Weight*	*Tipping Load, Straight*	*Tipping Load, 40-deg. Full Turn SAE*
John Deere PowerTech™ PVX 6090	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
John Deere PowerTech™ Plus 6090H	– 122 kg (– 246 lb.)	– 76 kg (– 168 lb.)	– 76 kg (– 168 lb.)
John Deere PowerTech™ 6090H	– 116 kg (– 256 lb.)	– 66 kg (– 146 lb.)	– 67 kg (– 148 lb.)
23.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
23.5-25, 20 PR L-3	+ 23 kg (+ 52 lb.)	+ 99 kg (+ 218 lb.)	+ 69 kg (+ 152 lb.)
750/65 R 25, 1 Star L-3T§	+ 478 kg (+ 1,054 lb.)	+ 441 kg (+ 973 lb.)	+ 370 kg (+ 816 lb.)

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

§Requires 9-deg. rear axle stops.

†Equipped with 1-piece rims.

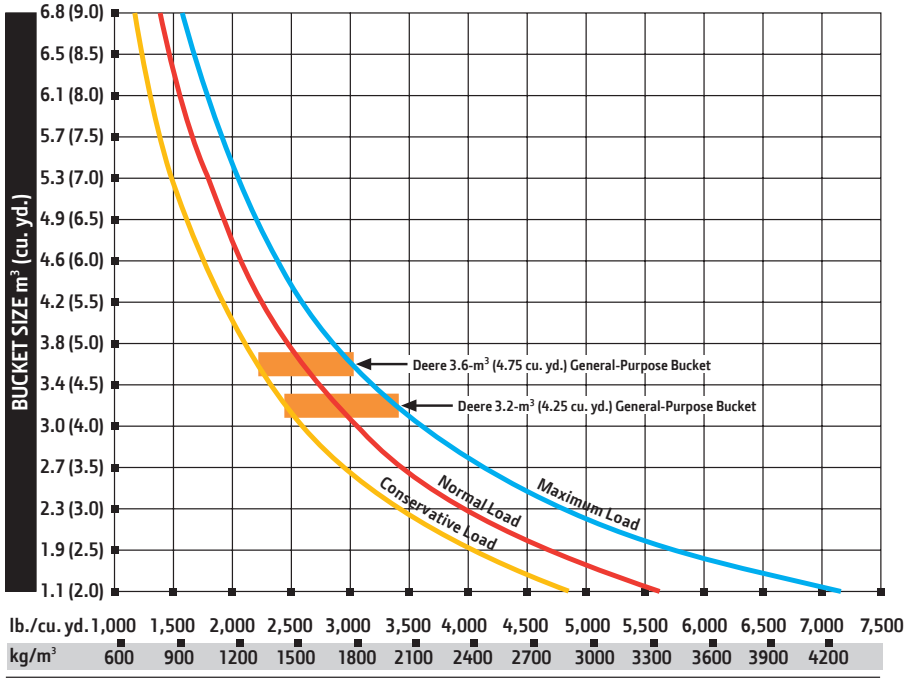
Bucket Selection Guides*



724K Z-BAR LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

* This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.



724K HIGH-LIFT LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

* This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.

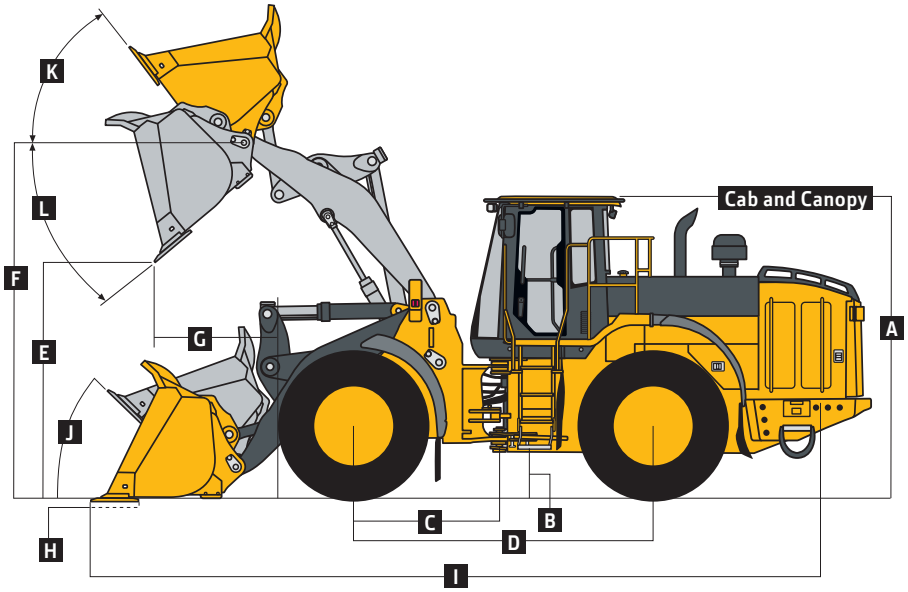
744K

Engine	744K Z-BAR / HIGH-LIFT			
Manufacturer and Model	John Deere PowerTech™ PSX 6090	John Deere PowerTech™ Plus 6090H		John Deere PowerTech™ 6090H
Non-Road Emissions Standard	EPA Interim Tier 4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA		EU Stage II
Cylinders	6	6		6
Valves per Cylinder	4	4		4
Displacement	9.0 L (548 cu. in.)	9.0 L (548 cu. in.)		9.0 L (548 cu. in.)
Net Peak Power at 1,500 rpm (ISO 9249)	227 kW (304 hp)	227 kW (304 hp)		227 kW (304 hp)
Net Peak Torque at 1,400 rpm (ISO 9249)	1456 Nm (1,074 lb.-ft.)	1456 Nm (1,074 lb.-ft.)		1456 Nm (1,074 lb.-ft.)
Net Torque Rise	47%	47%		47%
Fuel System (electronically controlled)	High-pressure common rail	High-pressure common rail		High-pressure common rail
Lubrication	Full-flow spin-on filter and integral cooler	Full-flow spin-on filter and integral cooler		Full-flow spin-on filter and integral cooler
Aspiration	Series turbocharged, charge air cooled	Turbocharged, charge air cooled		Turbocharged, charge air cooled
Air Cleaner	Under-hood, dual-element dry type, restriction indicator in cab monitor for service	Under-hood, dual-element dry type, restriction indicator in cab monitor for service		Under-hood, dual-element dry type, restriction indicator in cab monitor for service
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers	Hydraulically driven, proportionally controlled, fan aft of coolers		Hydraulically driven, proportionally controlled, fan aft of coolers
Electrical System	24 volt with 100-amp alternator	24 volt with 80-amp alternator		24 volt with 80-amp alternator
Batteries (2 – 12 volt)	1,400 CCA (each)	1,400 CCA (each)		1,400 CCA (each)
Transmission				
Type	Countershaft-type PowerShift™			
Torque Converter	Single stage, dual phase with freewheeling stator			
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 4-Speed Transmission		*5-Speed Transmission with Lockup Torque Converter*	
Travel Speeds (with 26.5 R 25, 1 Star radial tires)	*Forward Maximum*	*Reverse Maximum*	*Forward Maximum*	*Reverse Maximum*
Gear 1	6.6 km/h (4.1 mph)	6.6 km/h (4.1 mph)	7.4 km/h (4.6 mph)	7.4 km/h (4.6 mph)
Gear 2	13.8 km/h (8.6 mph)	13.8 km/h (8.6 mph)	14.3 km/h (8.9 mph)	14.3 km/h (8.9 mph)
Gear 3	20.8 km/h (12.9 mph)	29.9 km/h (18.6 mph)	22.2 km/h (13.8 mph)	32.3 km/h (20.1 mph)
Gear 4	40.0 km/h (24.9 mph)	N/A	32.2 km/h (20.0 mph)	N/A
Gear 5	N/A	N/A	40.0 km/h (24.9 mph)	N/A
Transmission Clutch Disconnect	3 selectable settings on the switch pad			
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 radial tires)	26 deg.			
Brakes (conform to ISO 3450)				
Service Brakes	Hydraulically actuated, inboard, sun-gear mounted, oil cooled, self adjusting, single disc			
Parking Brake	Automatic spring applied, hydraulically released, oil cooled, multi disc			
Tires/Wheels				
Choice of (with 5-piece rims)*	*Tread Width*	*Width Over Tires*	*Change In Vertical Height*	
26.5 R 25, 1 Star L3 Radial	2298 mm (90.5 in.)	3065 mm (120.7 in.)	standard	
26.5-25, 20 PR L3	2298 mm (90.5 in.)	3060 mm (120.5 in.)	+ 29 mm (+ 1.1 in.)	
26.5-25, 20 PR L5§	2298 mm (90.5 in.)	3060 mm (120.5 in.)	+ 66 mm (+ 2.6 in.)	

**Based on Z-bar machine configuration; may change based on vehicle configuration, weight, or tire-pressure adjustments.*

§Requires 8-deg. rear axle stops, close-mounted steps, and no fenders.

Serviceability	744K Z-BAR / HIGH-LIFT	
Refill Capacities		
Fuel Tank (with ground-level fueling)	492 L (130 gal.)	
Cooling System	48.3 L (51 qt.)	
Engine Oil with Vertical Spin-On Filter	34 L (36 qt.)	
Transmission Fluid with Vertical Filter	27.9 L (29.5 qt.)	
Axle Oil (front and rear)	46 L (49 qt.)	
Hydraulic Reservoir and Filters	159 L (42 gal.)	
Park Brake Oil (wet disc)	0.7 L (24 oz.)	
Hydraulic System/Steering		
Pump (loader and steering)	2 variable-displacement, load-sensing axial-piston pumps; closed-center system	
Maximum Rated Flow at 6895 kPa (1,000 psi) and 2,250 rpm	515 L/m (136 gpm)	
System Relief Pressure (loader and steering)	22 670 kPa (3,288 psi)	
Loader Controls	2-function valve; single- or dual-lever controls; control lever lockout feature; optional 3rd- and 4th-function valve with auxiliary levers	
Steering (conforms to ISO 5010)		
Type	Power, fully hydraulic	
Articulation Angle	80-deg. arc (40-deg. each direction)	
Hydraulic Cycle Times	***Z-Bar***	***High-Lift***
Raise	≤ 6.8 sec.	≤ 6.8 sec.
Dump	1.6 sec.	1.6 sec.
Lower (float down)	2.8 sec.	2.8 sec.
Total	11.2 sec.	11.2 sec.
Turning Radius (measured to centerline of outside tire)	6.28 m (20 ft. 7 in.)	
Dimensions with Standard Configuration	**Z-BAR**	**HIGH-LIFT**
	4.0-m³ (5.25 cu. yd.) pin-on bucket	*4.0-m³ (5.25 cu. yd.) pin-on bucket*
A Height to Top of Cab and Canopy	3.50 m (11 ft. 6 in.)	3.50 m (11 ft. 6 in.)
B Ground Clearance	462 mm (18.2 in.)	462 mm (18.2 in.)
C Length from Centerline to Front Axle	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)
D Wheelbase	3.46 m (11 ft. 4 in.)	3.46 m (11 ft. 4 in.)
E Dump Clearance	▲ (see page 30)	▲ (see page 30)
F Height to Hinge Pin, Fully Raised	4.28 m (14 ft. 1 in.)	4.80 m (15 ft. 11 in.)
G Dump Reach	▲▲ (see page 30)	▲▲ (see page 30)
H Maximum Digging Depth	80 mm (3.2 in.)	214 mm (8.4 in.)
I Overall Length	▲▲▲ (see page 30)	▲▲▲ (see page 30)
J Maximum Rollback at Ground Level	39.5 deg.	40.6 deg.
K Maximum Rollback, Boom Fully Raised	54.9 deg.	53.1 deg.
L Maximum Bucket Angle, Fully Raised	49.4 deg.	39.2 deg.



744K Z-BAR AND HIGH-LIFT LOADERS

Dimensions with Pin-on Bucket	744K Z-BAR					HIGH-LIFT
	General-Purpose Bucket with Bolt-on Edge	*Light-Material Bucket with Bolt-on Edge*	*General-Purpose Bucket with Teeth and Segments*	*Light-Material Bucket with Teeth and Segments*	*General-Purpose Bucket with JAGZ™*	*General-Purpose Bucket with Bolt-on Edge*
Capacity, Heaped	4.0 m^3 (5.25 cu. yd.)	4.4 m^3 (5.75 cu. yd.)	4.0 m^3 (5.25 cu. yd.)	4.4 m^3 (5.75 cu. yd.)	4.0 m^3 (5.25 cu. yd.)	4.0 m^3 (5.25 cu. yd.)
Capacity, Struck	3.4 m^3 (4.5 cu. yd.)	3.8 m^3 (5.0 cu. yd.)	3.4 m^3 (4.5 cu. yd.)	3.8 m^3 (5.0 cu. yd.)	3.4 m^3 (4.5 cu. yd.)	3.4 m^3 (4.5 cu. yd.)
Bucket Weight	2517 kg (5,549 lb.)	2595 kg (5,722 lb.)	2643 kg (5,827 lb.)	2721 kg (5,999 lb.)	2540 kg (5,599 lb.)	2517 kg (5,549 lb.)
Bucket Width	3.27 m (10 ft. 9 in.)	3.27 m (10 ft. 9 in.)	3.29 m (10 ft. 9 in.)	3.27 m (10 ft. 9 in.)	3.27 m (10 ft. 9 in.)	3.27 m (10 ft. 9 in.)
Breakout Force	19 416 kg (42,805 lb.)	18 276 kg (40,292 lb.)	19 345 kg (42,648 lb.)	18 190 kg (40,102 lb.)	19 462 kg (42,906 lb.)	17 433 kg (38,433 lb.)
Tipping Load, Straight	19 678 kg (43,383 lb.)	19 482 kg (42,950 lb.)	19 511 kg (43,013 lb.)	19 312 kg (42,576 lb.)	19 650 kg (43,321 lb.)	15 559 kg (34,303 lb.)
Tipping Load, 37-deg. Full Turn	17 327 kg (38,199 lb.)	17 143 kg (37,793 lb.)	17 159 kg (37,829 lb.)	16 973 kg (37,419 lb.)	17 299 kg (38,137 lb.)	13 614 kg (30,013 lb.)
Tipping Load, 40-deg. Full Turn	16 946 kg (37,360 lb.)	16 764 kg (36,958 lb.)	16 778 kg (36,990 lb.)	16 594 kg (36,584 lb.)	16 918 kg (37,298 lb.)	13 299 kg (29,319 lb.)
Reach, 45-deg. Dump, 2.13-m (7 ft.) Clearance	1.85 m (6 ft. 1 in.)	1.88 m (6 ft. 2 in.)	1.88 m (6 ft. 2 in.)	1.95 m (6 ft. 5 in.)	1.85 m (6 ft. 1 in.)	2.41 m (7 ft. 11 in.)
▲▲ Reach, 45-deg. Dump, Full Height	1.23 m (4 ft. 0 in.)	1.29 m (4 ft. 3 in.)	1.30 m (4 ft. 3 in.)	1.42 m (4 ft. 8 in.)	1.23 m (4 ft. 0 in.)	1.38 m (4 ft. 6 in.)
▲ Dump Clearance, 45 deg., Full Height	3.04 m (10 ft. 0 in.)	2.98 m (9 ft. 9 in.)	2.97 m (9 ft. 9 in.)	2.86 m (9 ft. 5 in.)	3.04 m (10 ft. 0 in.)	3.61 m (11 ft. 10 in.)
▲▲▲ Overall Length, Bucket on Ground	9.01 m (29 ft. 7 in.)	9.09 m (29 ft. 10 in.)	9.11 m (29 ft. 11 in.)	9.27 m (30 ft. 5 in.)	9.00 m (29 ft. 6 in.)	9.64 m (31 ft. 8 in.)
Loader Clearance Circle, Bucket Carry Position	14.01 m (46 ft. 0 in.)	14.07 m (46 ft. 2 in.)	14.12 m (46 ft. 4 in.)	14.18 m (46 ft. 6 in.)	14.01 m (46 ft. 0 in.)	14.59 m (47 ft. 10 in.)
Operating Weight	24 346 kg (53,674 lb.)	24 425 kg (53,847 lb.)	24 472 kg (53,952 lb.)	24 551 kg (54,125 lb.)	24 368 kg (53,722 lb.)	24 897 kg (54,889 lb.)

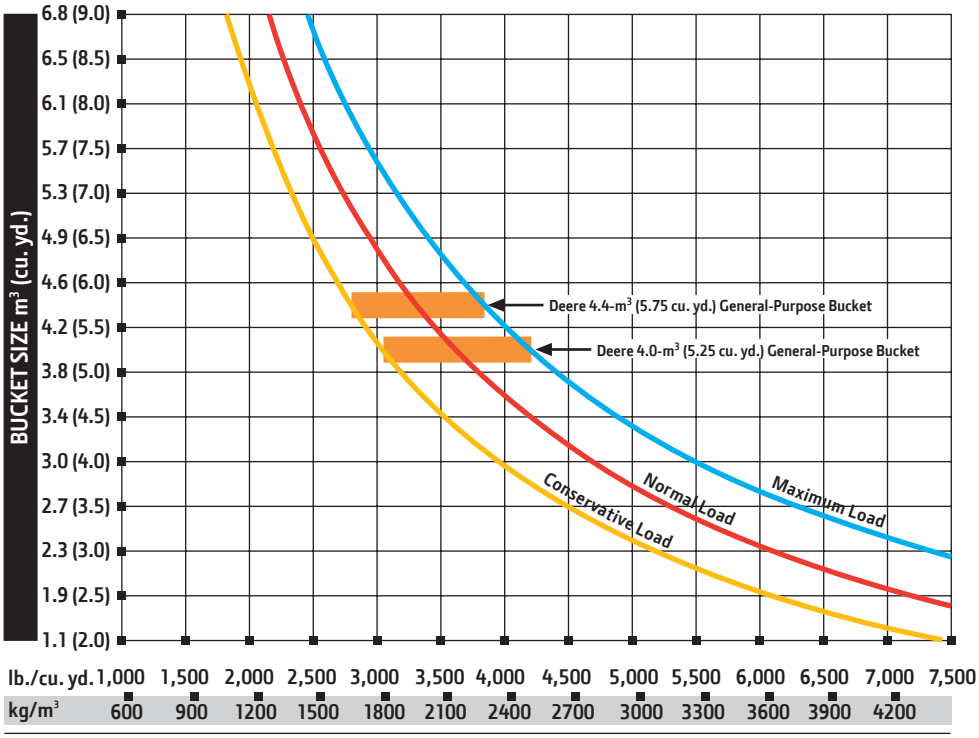
Loader operating information is based on machine with identified linkage and standard equipment, PowerTech™ PSX 6090 (EPA Interim Tier 4/EU Stage IIIB) engine, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) 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.

Adjustments to Operating Weights and Tipping Loads with Buckets	744K Z-BAR / HIGH-LIFT			
Adjustments to operating weights and tipping loads are based on Z-bar machine and pin-on 4.0-m^3 (5.25 cu. yd.) general-purpose 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 for loaders with 5-piece rims and	*Operating Weight*	*Tipping Loader, Straight*	*Tipping Load, 35-deg. Full Turn SAE*	*Tipping Load, 40-deg. Full Turn SAE*
John Deere PowerTech PSX 6090	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
John Deere PowerTech™ Plus 6090H	+ 65 kg (+ 143 lb.)	+ 377 kg (+ 831 lb.)	+ 316 kg (+ 697 lb.)	+ 299 kg (+ 659 lb.)
John Deere PowerTech™ 6090H	+ 59 kg (+ 130 lb.)	+ 367 kg (+ 809 lb.)	+ 307 kg (+ 677 lb.)	+ 290 kg (+ 639 lb.)
26.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
26.5-25, 20 PR L-3	+ 102 kg (+ 225 lb.)	+ 445 kg (+ 980 lb.)	+ 613 kg (+ 1,352 lb.)	+ 353 kg (+ 779 lb.)
26.5-25, 20 PR L-5[§]	+ 166 kg (+ 366 lb.)	+ 493 kg (+ 1,086 lb.)	+ 657 kg (+ 1,449 lb.)	+ 396 kg (+ 872 lb.)

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

[β]Requires 8-deg. rear axle stops, close-mounted steps, and no fenders.

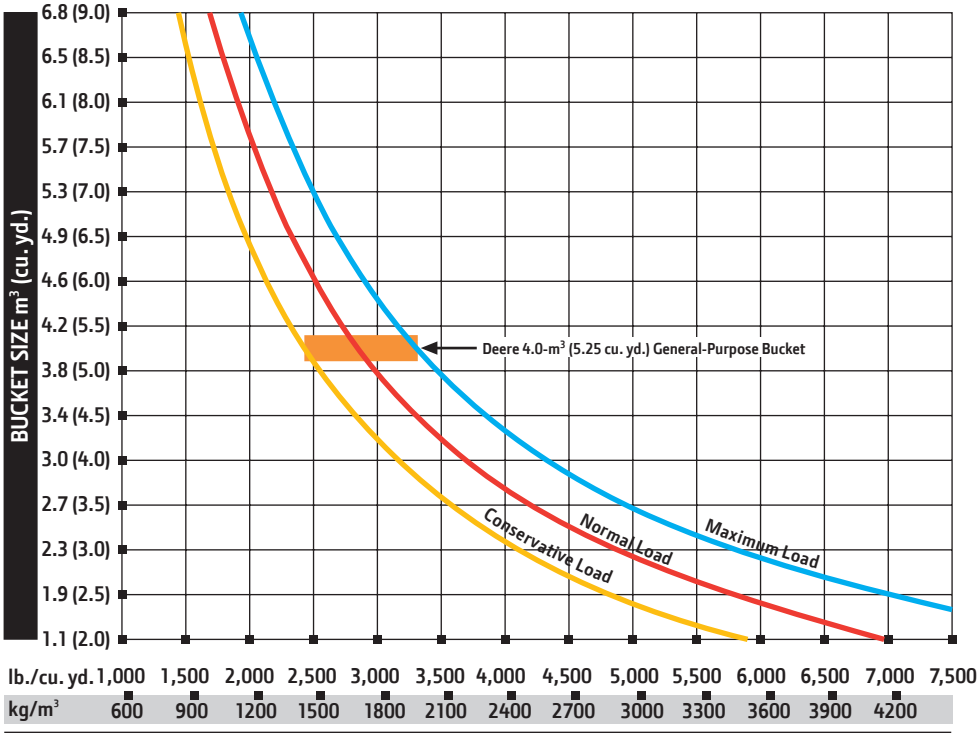
Bucket Selection Guides* 744K Z-BAR / HIGH-LIFT



744K Z-BAR LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

* This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.



744K HIGH-LIFT LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

* This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.

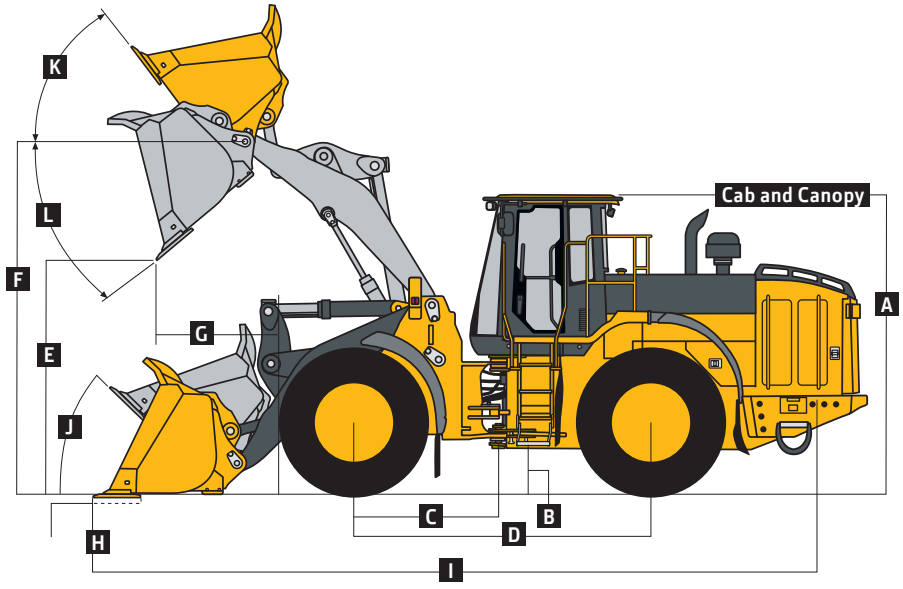
824K

Engine	**824K Z-BAR / HIGH-LIFT**			
Manufacturer and Model	John Deere PowerTech™ Plus 6135H		John Deere PowerTech™ 6135H	
Non-Road Emissions Standard	EPA Tier 3/EU Stage IIIA		EPA Tier 2/EU Stage II	
Cylinders	6		6	
Valves Per Cylinder	4		4	
Displacement	13.5 L (824 cu. in.)		13.5 L (824 cu. in.)	
Net Peak Power at 1,600 rpm	248 kW (333 hp)		248 kW (333 hp)	
Net Peak Torque at 900 rpm	1619 Nm (1,194 lb.-ft.)		1619 Nm (1,194 lb.-ft.)	
Net Torque Rise	59%		59%	
Fuel System	Mechanically actuated electronic unit injectors		Mechanically actuated electronic unit injectors	
Lubrication	Full-flow spin-on filter and integral cooler		Full-flow spin-on filter and integral cooler	
Aspiration	Turbocharged, charge air cooled		Turbocharged, charge air cooled	
Air Cleaner	Dual-element dry type, restriction indicator in cab monitor for service		Dual-element dry type, restriction indicator in cab monitor for service	
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers		Hydraulically driven, proportionally controlled, fan aft of coolers	
Electrical System	24 volt with 80-amp alternator		24 volt with 80-amp alternator	
Batteries (2 – 12 volt)	1,400 CCA (each)		1,400 CCA (each)	
Transmission				
Type	Countershaft-type PowerShift™			
Torque Converter	Single stage, dual phase with freewheeling stator			
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–4th or 2nd–4th); quick-shift button with 2 selectable modes: kick-down or kick-up/down; and 3 clutch-cutoff settings adjustable on switch pad			
	Standard 4-Speed Transmission		*5-Speed Transmission with Lockup Torque Converter*	
Travel Speeds (with 26.5 R 25, 1 Star L3 tires)	*Forward Maximum*	*Reverse Maximum*	*Forward Maximum*	*Reverse Maximum*
Gear 1	7.4 km/h (4.6 mph)	7.4 km/h (4.6 mph)	8.3 km/h (5.2 mph)	8.3 km/h (5.2 mph)
Gear 2	13.8 km/h (8.6 mph)	13.8 km/h (8.6 mph)	14.9 km/h (9.3 mph)	14.0 km/h (8.7 mph)
Gear 3	21.0 km/h (13.1 mph)	30.1 km/h (18.7 mph)	23.1 km/h (14.4 mph)	33.9 km/h (21.1 mph)
Gear 4	40.0 km/h (24.9 mph)	N/A	33.9 km/h (21.1 mph)	N/A
Gear 5	N/A	N/A	40.0 km/h (24.9 mph)	N/A
Axles/Brakes				
Final Drives	Heavy-duty inboard 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.			
Brakes (conform to ISO 3450)				
Service Brakes	Hydraulically actuated, inboard, sun-gear mounted, pressure oil cooled, self adjusting, single disc			
Parking Brake	Automatic spring applied, hydraulically released, oil cooled, multi disc			
Tires/Wheels				
Choice of*	*Tread Width*	*Width Over Tires*	*Change In Vertical Height*	
26.5 R 25, 1 Star L-3	2298 mm (90.5 in.)	3065 mm (120.7 in.)	standard	
26.5-25, 1 Star L-5, 20 ply[§]	2298 mm (90.5 in.)	3060 mm (120.5 in.)	+ 31 mm (+ 1.2 in.)	
26.5-25, 20 PR L-3	2298 mm (90.5 in.)	3060 mm (120.5 in.)	+ 67 mm (+ 2.6 in.)	
29.5 R 25, 1 Star L-3	2298 mm (90.5 in.)	3052 mm (120.2 in.)	+ 72 mm (+ 2.8 in.)	

**Based on Z-bar machine configuration; may change based on vehicle configuration, weight, or tire-pressure adjustments.*

[β]Requires 8-deg. rear axle stops, close-mounted steps, and no fenders.

Serviceability	824K Z-BAR / HIGH-LIFT	
Refill Capacities		
Fuel Tank (with ground-level fueling)	469.4 L (124 gal.)	
Cooling System	47.4 L (50.1 qt.)	
Engine Oil with Vertical Spin-On Filter	37.9 L (40 qt.)	
Transmission Fluid with Vertical Filter	27.9 L (29.5 qt.)	
Axle Oil (front and rear)	45.9 L (48.5 qt.)	
Hydraulic Reservoir and Filters	159 L (42 gal.)	
Park Brake Oil (wet disc)	0.7 L (24 oz.)	
Hydraulic System/Steering		
Pump (loader and steering)	2 variable-displacement, load-sensing, axial-piston pumps; closed-center system	
Maximum Rated Flow at 6895 kPa (1,000 psi) and 2,250 rpm	513 L/m (136 gpm)	
System Relief Pressure (loader and steering)	25 166 kPa (3,650 psi)	
Loader Controls	2-function valve; single- or dual-lever controls; control lever lockout feature; 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)	
Hydraulic Cycle Times	***Z-Bar***	***High-Lift***
Raise	5.9 sec.	6.0 sec.
Dump	1.3 sec.	1.3 sec.
Lower (float down)	2.5 sec.	2.6 sec.
Total	9.7 sec.	9.9 sec.
Turning Radius (measured to centerline of outside tire)	5.92 m (19 ft. 5 in.)	
Dimensions with Standard Configuration	**Z-BAR**	**HIGH-LIFT**
	4.6-m³ (6.0 cu. yd.) pin-on bucket	*4.6-m³ (6.0 cu. yd.) pin-on bucket*
A Height to Top of Cab and Canopy	3.50 m (11 ft. 6 in.)	3.50 m (11 ft. 6 in.)
B Ground Clearance	462 mm (18.2 in.)	462 mm (18.2 in.)
C Length from Centerline to Front Axle	1.70 m (5 ft. 7 in.)	1.70 m (5 ft. 7 in.)
D Wheelbase	3.46 m (11 ft. 4 in.)	3.46 m (11 ft. 4 in.)
E Dump Clearance	▲ (see page 34)	▲ (see page 34)
F Height to Hinge Pin, Fully Raised	4.48 m (14 ft. 9 in.)	4.83 m (15 ft. 10 in.)
G Dump Reach	▲▲ (see page 34)	▲▲ (see page 34)
H Maximum Digging Depth	115 mm (4.5 in.)	196 mm (7.7 in.)
I Overall Length	▲▲▲ (see page 34)	▲▲▲ (see page 34)
J Maximum Rollback at Ground Level	45.5 deg.	45.5 deg.
K Maximum Rollback, Boom Fully Raised	52.0 deg.	53.0 deg.
L Maximum Bucket Angle, Fully Raised	44.1 deg.	39.8 deg.



824K Z-BAR AND HIGH-LIFT LOADERS

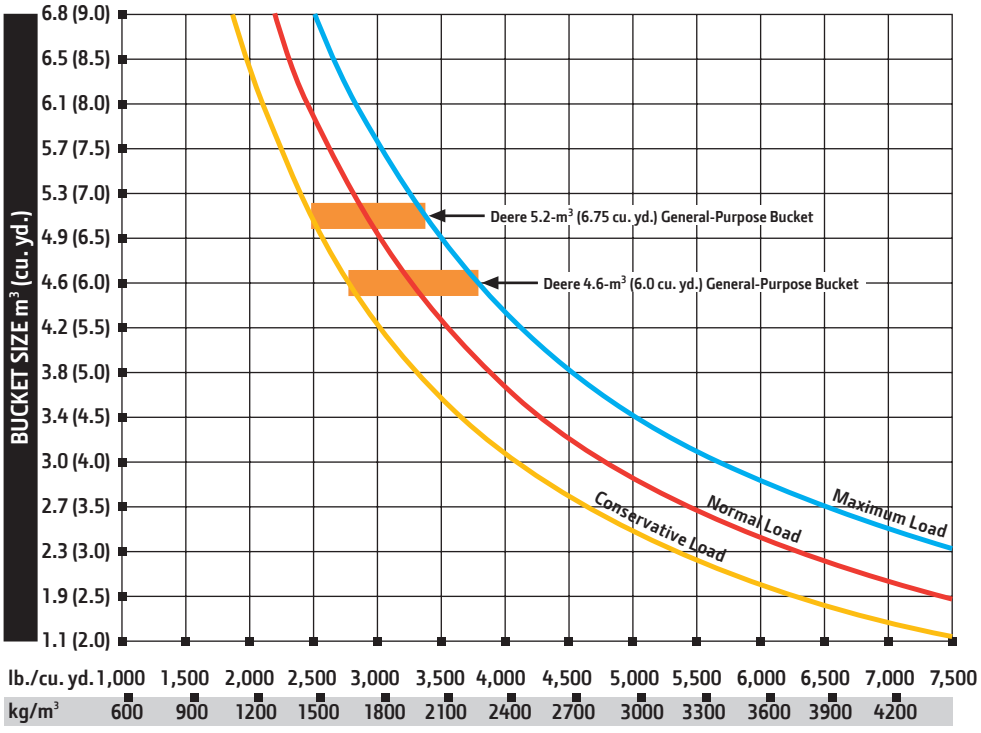
Dimensions with Pin-on Bucket	824K Z-BAR		HIGH-LIFT	
Bucket Type/Size	*General-Purpose with Bolt-on Edge*	*Light Material with Bolt-on Edge*	*General-Purpose with Bolt-on Edge*	*General-Purpose with Teeth and Segments*
Capacity, Heaped	4.6 m^3 (6.0 cu. yd.)	5.2 m^3 (6.75 cu. yd.)	4.6 m^3 (6.0 cu. yd.)	4.6 m^3 (6.0 cu. yd.)
Capacity, Struck	4.0 m^3 (5.3 cu. yd.)	4.4 m^3 (5.8 cu. yd.)	4.0 m^3 (5.25 cu. yd.)	4.0 m^3 (5.25 cu. yd.)
Bucket Weight	2788 kg (6,146 lb.)	2908 kg (6,411 lb.)	2788 kg (6,146 lb.)	2914 kg (6,423 lb.)
Bucket Width	3.27 m (10 ft. 9 in.)	3.27 m (10 ft. 9 in.)	3.27 m (10 ft. 9 in.)	3.27 m (10 ft. 9 in.)
Breakout Force	18 905 kg (41,678 lb.)	17 496 kg (38,572 lb.)	17 949 kg (39,570 lb.)	17 949 kg (39,570 lb.)
Tipping Load, Straight	20 508 kg (45,213 lb.)	20 226 kg (44,590 lb.)	17 229 kg (37,983 lb.)	17 067 kg (37,626 lb.)
Tipping Load, 35-deg. Full Turn	18 251 kg (40,236 lb.)	17 984 kg (39,649 lb.)	15 267 kg (33,658 lb.)	15 103 kg (33,296 lb.)
Tipping Load, 40-deg. Full Turn	17 588 kg (38,775 lb.)	17 325 kg (38,195 lb.)	14 690 kg (32,386 lb.)	14 527 kg (32,027 lb.)
Reach, 45-deg. Dump, 2.13-m (7 ft.) Clearance	2.05 m (6 ft. 9 in.)	2.09 m (6 ft. 10 in.)	2.50 m (8 ft. 2 in.)	2.58 m (8 ft. 5 in.)
▲▲ Reach, Max. Dump, Full Height	1.28 m (4 ft. 2 in.)	1.36 m (4 ft. 6 in.)	1.63 m (5 ft. 4 in.)	1.77 m (5 ft. 10 in.)
▲ Dump Clearance, Max. Dump, Full Height	3.19 m (10 ft. 6 in.)	3.12 m (10 ft. 3 in.)	3.63 m (11 ft. 11 in.)	3.52 m (11 ft. 7 in.)
▲▲▲ Overall Length, Bucket on Ground	9.26 m (30 ft. 5 in.)	9.38 m (30 ft. 9 in.)	9.77 m (32 ft. 1 in.)	9.95 m (32 ft. 8 in.)
Loader Clearance Circle, Bucket Carry Position	14.14 m (46 ft. 5 in.)	14.20 m (46 ft. 7 in.)	14.68 m (48 ft. 2 in.)	14.81 m (48 ft. 7 in.)
Operating Weight	26 210 kg (57,783 lb.)	26 330 kg (58,047 lb.)	26 589 kg (58,618 lb.)	26 714 kg (58,894 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech™ Plus 6135H (EPA Tier 3/EU Stage IIIA) 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.

Adjustments to Operating Weights and Tipping Loads with Buckets	Z-BAR / HIGH-LIFT			
Adjustments to operating weights and tipping loads are based on Z-bar machine and pin-on 4.6-m^3 (6.0 cu. yd.) general-purpose 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 for loaders with	*Operating Weight*	*Tipping Loader, Straight*	*Tipping Load, 37-deg. Full Turn SAE*	*Tipping Load, 40-deg. Full Turn SAE*
John Deere PowerTech Plus 6135H	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
John Deere PowerTech™ 6135H	– 27 kg (– 60 lb.)	– 46 kg (– 101 lb.)	– 43 kg (– 95 lb.)	– 41 kg (– 90 lb.)
26.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
26.5-25, 1 Star L-5, 20 ply[§]	+ 312 kg (+ 688 lb.)	+ 222 kg (+ 489 lb.)	+ 203 kg (+ 448 lb.)	+ 196 kg (+ 432 lb.)
26.5-25, 20 PR L-3	+ 248 kg (+ 547 lb.)	+ 177 kg (+ 390 lb.)	+ 161 kg (+ 355 lb.)	+ 156 kg (+ 343 lb.)
29.5 R 25, 1 Star L-3	+ 663 kg (+ 1,462 lb.)	+ 472 kg (+ 1,041 lb.)	+ 424 kg (+ 935 lb.)	+ 416 kg (+ 917 lb.)

**Based on Z-bar machine configuration; may change based on vehicle configuration, weight, or tire-pressure adjustments.*

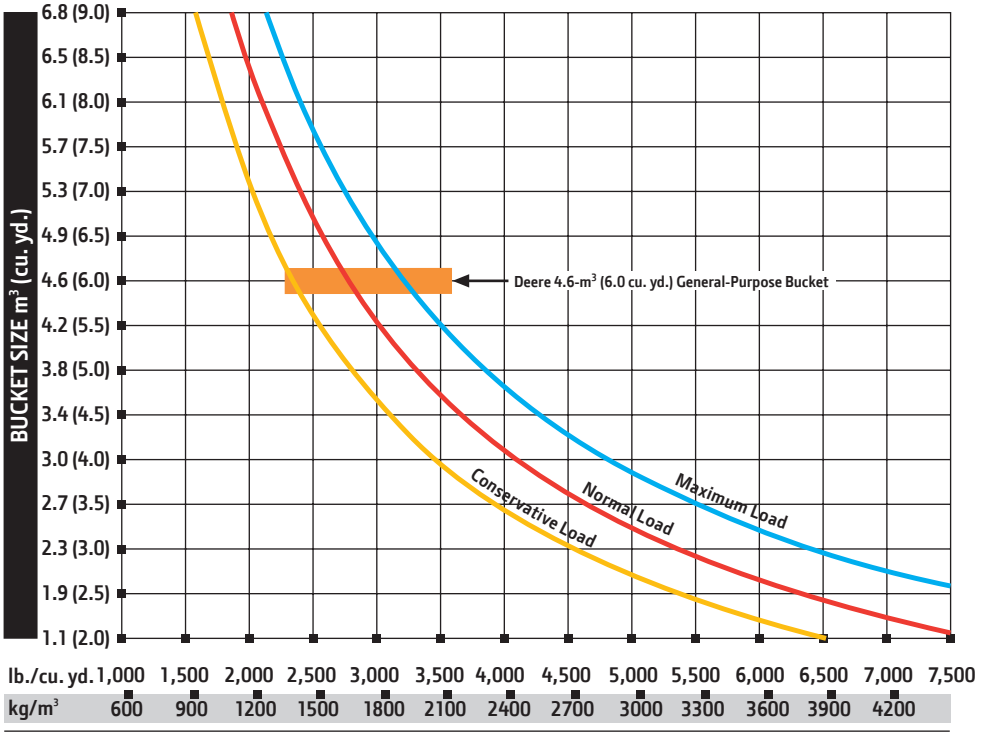
[§]Require 8-deg. rear axle stops, close-mounted steps, and no fenders.



824K Z-BAR LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

*This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.



824K HIGH-LIFT LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

*This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.

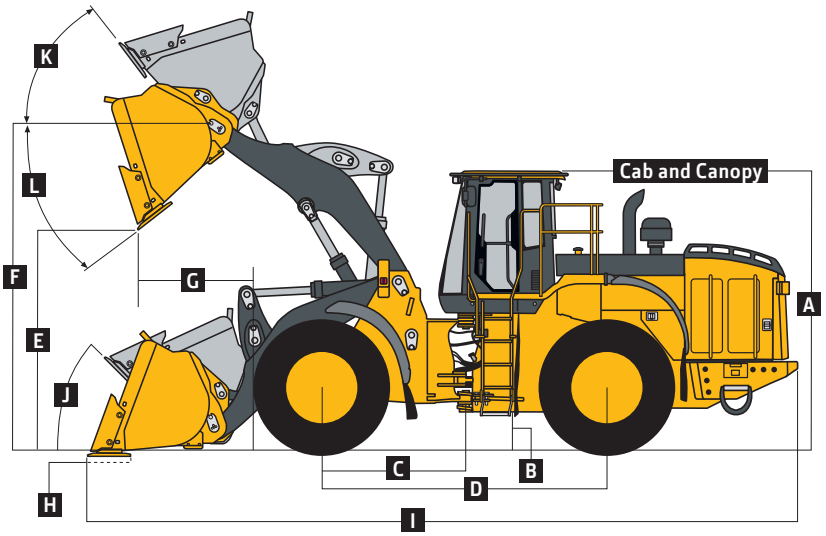
844K

Engine	**844K Z-BAR**			
Manufacturer and Model	John Deere PowerTech™ Plus 6135H		John Deere PowerTech™ 6135H	
Non-Road Emissions Standard	EPA Tier 3/EU Stage IIIA		EPA Tier 2/EU Stage II	
Cylinders	6		6	
Valves Per Cylinder	4		4	
Displacement	13.5 L (824 cu. in.)		13.5 L (824 cu. in.)	
Net Peak Power at 1,600 rpm	283 kW (380 hp)		283 kW (380 hp)	
Net Peak Torque at 900 rpm	1793 Nm (1,323 lb.-ft.)		1793 Nm (1,323 lb.-ft.)	
Net Torque Rise	44%		44%	
Fuel System	Mechanically actuated electronic unit injectors		Mechanically actuated electronic unit injectors	
Lubrication	Full-flow spin-on filter and integral cooler		Full-flow spin-on filter and integral cooler	
Aspiration	Turbocharged, charge air cooled		Turbocharged, charge air cooled	
Air Cleaner	Dual-element dry type, restriction indicator in cab monitor for service		Dual-element dry type, restriction indicator in cab monitor for service	
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers		Hydraulically driven, proportionally controlled, fan aft of coolers	
Electrical System	24 volt with 80-amp alternator		24 volt with 80-amp alternator	
Batteries (2 – 12 volt)	1,400 CCA (each)		1,400 CCA (each)	
Transmission				
Type	Countershaft-type PowerShift™			
Torque Converter	Single stage, dual phase with freewheeling stator			
Shift Control	Electronically modulated, adaptive, load and speed dependent			
Operator Interface	Steering-column or joystick-mounted F-N-R and gear-select lever; kick-down button on hydraulic lever			
Shift Modes	Manual/auto (1st–4th or 2nd–4th); quick-shift button with 2 selectable modes: kick-down or kick-up/down; and 3 clutch-cutoff settings adjustable on switch pad			
	Standard 4-Speed Transmission		*5-Speed Transmission with Lockup Torque Converter*	
Travel Speeds (with 29.5 R 25, 1 Star L3 tires)	*Forward Maximum*	*Reverse Maximum*	*Forward Maximum*	*Reverse Maximum*
Gear 1	6.6 km/h (4.1 mph)	6.6 km/h (4.1 mph)	7.9 km/h (4.9 mph)	7.9 km/h (4.9 mph)
Gear 2	12.2 km/h (7.6 mph)	12.2 km/h (7.6 mph)	13.5 km/h (8.4 mph)	13.1 km/h (8.1 mph)
Gear 3	18.8 km/h (11.7 mph)	27.3 km/h (17.0 mph)	20.9 km/h (13.0 mph)	30.7 km/h (19.1 mph)
Gear 4	40.5 km/h (25.2 mph)	N/A	30.7 km/h (19.1 mph)	N/A
Gear 5	N/A	N/A	40.0 km/h (24.9 mph)	N/A
Axles/Brakes				
Final Drives	Heavy-duty outboard planetary			
Differentials	Conventional front and rear – standard; limited-slip front and rear – optional			
Rear Axle Oscillation, Stop to Stop (with 29.5 R 25, 1 Star L3 tires)	26 deg.			
Brakes (conform to ISO 3450)				
Service Brakes	Outboard, forced oil cooled, multi disc			
Parking Brake	Automatic spring applied, hydraulically released, sealed wet multi disc			
Tires/Wheels				
Choice of (with 3-piece rims)*	*Tread Width*	*Width Over Tires*	*Change In Vertical Height*	
29.5 R 25, 1 Star L-3	2440 mm (96.1 in.)	3194 mm (125.8 in.)	standard	
29.5 R 25, 1 Star L-3, 28 ply	2440 mm (96.1 in.)	3210 mm (126.4 in.)	– 3 mm (– 0.1 in.)	
29.5 R 25, 1 Star L-5†	2440 mm (96.1 in.)	3208 mm (126.3 in.)	+ 39 mm (+ 1.5 in.)	

**Based on Z-bar machine configuration; may change based on vehicle configuration, weight, or tire-pressure adjustments.*

†Equipped with 5-piece rims; 33 566-kg (74,000 lb.) ROPS limit must not be exceeded.

Serviceability	844K Z-BAR
Refill Capacities	
Fuel Tank (with ground-level fueling)	553 L (146 gal.)
Cooling System	52 L (55 qt.)
Engine Oil with Vertical Spin-On Filter	38 L (40 qt.)
Transmission Fluid with Vertical Filter	45.4 L (48 qt.)
Axle Oil	
Front	55 L (58 qt.)
Rear	59 L (62 qt.)
Hydraulic Reservoir and Filters	244 L (64.5 gal.)
Park Brake Oil (wet disc)	0.7 L (24 oz.)
Hydraulic System/Steering	
Pump (loader and steering)	2 variable-displacement, load-sensing, axial-piston pumps; closed-center system
Maximum Rated Flow at 6895 kPa (1,000 psi) and 2,250 rpm	621 L/m (164 gpm)
System Relief Pressure (loader and steering)	24 132 kPa (3,500 psi)
Loader Controls	2-function valve; single- or dual-lever controls; control lever lockout feature; optional 3rd- and 4th-function valve with auxiliary levers
Steering (conforms to ISO 5010)	
Type	Power, fully hydraulic; single-lever control and adjustable wristrest with conventional steering wheel override
Articulation Angle	80-deg. arc (40-deg. each direction)
Hydraulic Cycle Times	***Z-Bar***
Raise	5.9 sec.
Dump	1.9 sec.
Lower (float down)	3.5 sec.
Total	11.3 sec.
Turning Radius (measured to centerline of outside tire)	6.30 m (20 ft. 8 in.)
Dimensions with Standard Configuration	**Z-BAR**
	5.5-m^3 (7.25 cu. yd.) pin-on bucket
A Height to Top of Cab and Canopy	3.76 m (12 ft. 4 in.)
B Ground Clearance	463 mm (18.2 in.)
C Length from Centerline to Front Axle	1.85 m (6 ft. 1 in.)
D Wheelbase	3.70 m (12 ft. 2 in.)
E Dump Clearance	▲ (see page 38)
F Height to Hinge Pin, Fully Raised	4.62 m (15 ft. 2 in.)
G Dump Reach	▲▲ (see page 38)
H Maximum Digging Depth	93 mm (3.7 in.)
I Overall Length	▲▲▲ (see page 38)
J Maximum Rollback at Ground Level	40.5 deg.
K Maximum Rollback, Boom Fully Raised	56.3 deg.
L Maximum Bucket Angle, Fully Raised	55.2 deg.



844K Z-BAR LOADER

Dimensions with Pin-on Bucket	844K Z-BAR					
Bucket Type/Size	*General-Purpose with Bolt-on Edge and Wear Inserts*	*General-Purpose with Bolt-on Edge, without Wear Inserts*	*Light Material with Bolt-on Edge and Optional Spillguard, without Wear Inserts**	*Light Material with Bolt-on Edge, Optional Spillguard, and Wear Inserts**	*Spade-Nose Rock with Teeth, Segments, Spillguard, and Wear Inserts*	*Spade-Nose Rock with Bolt-on Edge, Spillguard, and Wear Inserts*
Capacity, Heaped	5.5 m^3 (7.25 cu. yd.)	5.5 m^3 (7.25 cu. yd.)	6.2 m^3 (8.1 cu. yd.)	6.2 m^3 (8.1 cu. yd.)	4.8 m^3 (6.3 cu. yd.)	4.8 m^3 (6.3 cu. yd.)
Capacity, Struck	4.7 m^3 (6.2 cu. yd.)	4.7 m^3 (6.2 cu. yd.)	5.6 m^3 (7.3 cu. yd.)	5.6 m^3 (7.3 cu. yd.)	4.1 m^3 (5.4 cu. yd.)	4.1 m^3 (5.4 cu. yd.)
Bucket Weight	3759 kg (8,288 lb.)	3515 kg (7,748 lb.)	3741 kg (8,247 lb.)	3998 kg (8,813 lb.)	4260 kg (9,392 lb.)	4124 kg (9,092 lb.)
Bucket Width	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.)	3.49 m (11 ft. 6 in.)	3.49 m (11 ft. 6 in.)
Breakout Force	21 709 kg (47,860 lb.)	21 709 kg (47,860 lb.)	20 656 kg (45,539 lb.)	20 656 kg (45,539 lb.)	19 312 kg (42,576 lb.)	19 723 kg (43,482 lb.)
Tipping Load, Straight	23 355 kg (51,488 lb.)	23 616 kg (52,064 lb.)	23 536 kg (51,888 lb.)	23 256 kg (51,272 lb.)	22 949 kg (50,594 lb.)	23 142 kg (51,019 lb.)
Tipping Load, 37-deg. Full Turn	20 484 kg (45,160 lb.)	20 746 kg (45,737 lb.)	20 649 kg (45,524 lb.)	20 370 kg (44,908 lb.)	20 051 kg (44,205 lb.)	20 245 kg (44,633 lb.)
Tipping Load, 40-deg. Full Turn	20 020 kg (44,136 lb.)	20 282 kg (44,713 lb.)	20 182 kg (44,494 lb.)	19 902 kg (43,876 lb.)	19 583 kg (43,173 lb.)	19 776 kg (43,599 lb.)
Reach, 45-deg. Dump, 2.13-m (7 ft.) Clearance	2.28 m (7 ft. 6 in.)	2.28 m (7 ft. 6 in.)	2.31 m (7 ft. 7 in.)	2.31 m (7 ft. 7 in.)	2.47 m (8 ft. 1 in.)	2.38 m (7 ft. 10 in.)
▲▲ Reach, 45-Deg. Dump, Full Height	1.49 m (4 ft. 11 in.)	1.49 m (4 ft. 11 in.)	1.54 m (5 ft. 1 in.)	1.54 m (5 ft. 1 in.)	1.80 m (5 ft. 11 in.)	1.64 m (5 ft. 4 in.)
▲ Dump Clearance, 45 Deg., Full Height	3.32 m (10 ft. 11 in.)	3.32 m (10 ft. 11 in.)	3.27 m (10 ft. 9 in.)	3.27 m (10 ft. 9 in.)	3.05 m (10 ft. 0 in.)	3.21 m (10 ft. 6 in.)
▲▲▲ Overall Length, Bucket on Ground	9.65 m (31 ft. 8 in.)	9.65 m (31 ft. 8 in.)	9.72 m (31 ft. 11 in.)	9.72 m (31 ft. 11 in.)	10.06 m (33 ft. 0 in.)	9.83 m (32 ft. 3 in.)
Loader Clearance Circle, Bucket Carry Position	15.06 m (49 ft. 5 in.)	15.06 m (49 ft. 5 in.)	15.11 m (49 ft. 7 in.)	15.11 m (49 ft. 7 in.)	15.10 m (49 ft. 6 in.)	14.98 m (49 ft. 2 in.)
Operating Weight	32 037 kg (70,629 lb.)	31 792 kg (70,089 lb.)	32 019 kg (70,590 lb.)	32 276 kg (71,156 lb.)	32 538 kg (71,734 lb.)	32 402 kg (71,434 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech™ Plus 6135H (EPA Tier 3/EU Stage IIIA) 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.

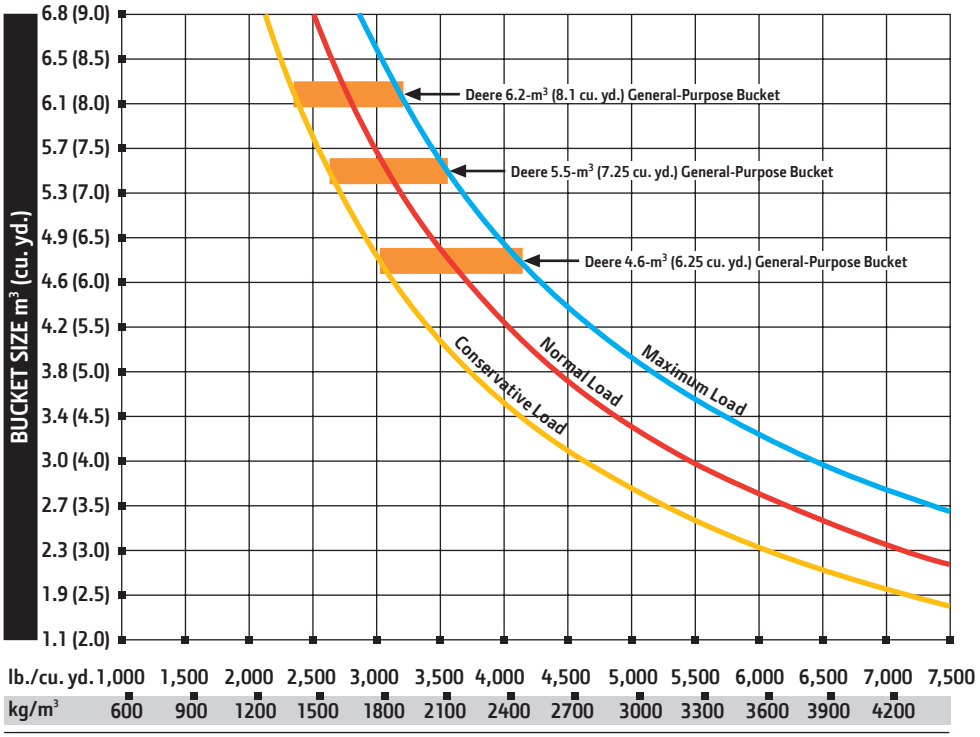
**Spillguard adds approximately 0.2 m^3 (0.26 cu. yd.) to bucket rating.*

Adjustments to Operating Weights and Tipping Loads with Buckets	Z-BAR			
Adjustments to operating weights and tipping loads are based on Z-bar machine and pin-on 5.5-m^3 (7.25 cu. yd.) general-purpose 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 for loaders with 3-piece rims and	*Operating Weight*	*Tipping Loader, Straight*	*Tipping Load, 37-deg. Full Turn SAE*	*Tipping Load, 40-deg. Full Turn SAE*
John Deere PowerTech Plus 6135H	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
John Deere PowerTech™ 6135H	– 27 kg (– 60 lb.)	– 46 kg (– 101 lb.)	– 43 kg (– 95 lb.)	– 41 kg (– 90 lb.)
29.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
29.5 R 25, 1 Star L-3, 28 ply	+ 500 kg (+ 1,103 lb.)	+ 368 kg (+ 812 lb.)	+ 331 kg (+ 730 lb.)	+ 325 kg (+ 717 lb.)
29.5 R 25, 1 Star L-5†	+ 894 kg (+ 1,972 lb.)	+ 113 kg (+ 248 lb.)	+ 26 kg (+ 56 lb.)	+ 31 kg (+ 68 lb.)

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

†Equipped with 5-piece rims; 33 636-kg (74,000 lb.) ROPS limit must not be exceeded.

Bucket Selection Guides* 844K Z-BAR



844K Z-BAR LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m³	lb./cu. yd.
Chips, pulpwood	288	486
Cinders (coal, ashes, clinkers)	673	1,134
Clay and gravel, dry	1602	2,700
Clay, compact, solid	1746	2,943
Clay, dry in lump loose	1009	1,701
Clay, excavated in water	1282	2,160
Coal, anthracite, broken, loose	865	1,458
Coal, bituminous, moderately wet	801	1,350
Earth, common loam, dry	1218	2,052
Earth, mud, packed	1843	3,105
Granite, broken	1538	2,592
Gypsum	2275	3,834
Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
Limestone, pulverized or crushed	1362	2,295
Sand, damp	2083	3,510
Sand, dry	1762	2,970
Sand, voids, full of water	2083	3,510
Sandstone, quarried	1314	2,214
Shale, broken crushed	1362	2,295
Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
Stone or gravel, 18.75-mm (3/4") size	1602	2,700

* This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and unlevel surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.

Additional equipment

Key: ● Standard ▲ Optional or special

See your John Deere dealer for further information.

644	724	744	824	844	Engine
●	●	●	●	●	Wet-sleeve cylinder liners
●	●	●	●	●	Programmable auto-idle and auto shutdown
●	●	●	●	●	Selected idle adjustment from 900–1,250 rpm
●	●	●	●	●	Starter protection
●	●	●	●	●	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 ether starting aid (recommended for cold starts below –12 deg. C [10 deg. F])
▲	▲	▲	▲	▲	Engine-block heater (recommended for cold starts below –23 deg. C [–10 deg. F])
▲	▲	▲	●	●	Centrifugal engine air pre-cleaner
					Powertrain
●	●	●	●	●	Front axle oil temperature sensor
▲	▲	●	●	●	Rear axle oil temperature sensor
●	●	●	●	●	Programmable maximum high gear
●	●	●	●	●	Clutch calibration engaged from monitor
●	●	●	●	●	2,000-hour vertical spin-on transmission filter
●	●	●	●	●	Transmission diagnostic ports
▲	▲	▲	▲	▲	5-speed transmission with lockup torque converter
▲	▲	▲	▲		Automatic differential lock
▲	●	●	●	●	Wheel-spin control
					Quad-Cool™ 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)
●	●	●	●	●	Transmission oil cooler (oil to air)
●	●	●	●	●	Charge air cooler (air to air)
●	●	●	●	●	Coolant recovery tank
●	●	●	●	●	Antifreeze, –37 deg. C (–34 deg. F)
●	●	●	●	●	Cool-on-demand swing-out fan
●	●	●	●	●	Enclosed fan safety guard
▲	▲	▲	▲	●	Automatic reversing fan drive
▲	▲	●	●	●	Axle coolers
▲	▲	▲	▲	▲	Harsh environmental coolers
					Hydraulics
●	▲	▲	▲		2 function — joystick with F-N-R
●	●	●	●	●	Automatic return to dig
●				●	In-cab adjustable automatic return to dig (Powerllel™ and 844K only)
●	●	●	●	●	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 steering column F-N-R
▲	●	●	●	●	2 function — 2-lever fingertip controls and steering column F-N-R
▲	▲	▲	▲		3 function — joystick with F-N-R and 3rd-function auxiliary lever
▲	▲	▲	▲	▲	3 function — joystick with steering column F-N-R and 3rd-function auxiliary lever
▲	▲	▲	▲	▲	3 function — 3-lever fingertip controls and steering column F-N-R
▲	▲				4 function — 4-lever fingertip controls and steering column F-N-R
▲	●	●	●	●	Ride control, automatic with monitor-adjustable speed settings

644	724	744	824	844	Hydraulics *(continued)*
▲	▲	▲	▲	▲	Hydraulic control system for quick-coupler locking pins
					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
●	●	●	●	●	By-pass start safety cover at starter
	●	●	●	●	Electric fuel priming pump with switch
●	●	●	●	●	Pre-wired for beacon/strobe light
●	●	●	●	●	Lights: Halogen driving lights with guards (2) / Front (4) and rear (2) cab work lights (644K and 724K) / Front (4), rear cab (2), and rear grille (2) work lights (744K, 824K, and 844K) / Turn signals and flashers (644K, 724K, 744K, and 824K) / LED stop- and taillights
●	●	●	●	●	Horn, electric
●	●	●	●	●	Reverse warning alarm
●	●	●	●	●	Multi-function/multi-language 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, speedometer, odometer, and outside temperature)
●	●	●	●	●	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
▲	▲	▲	▲	●	Heavy-duty LED turn signal and marker lights
▲	▲	▲	▲	▲	Electrical corrosion-prevention package
▲	▲	▲	▲	▲	AM/FM/WB radio
▲	●	●	●	●	24- to 12-volt, 10-amp converter
					Operator's Station
●					Canopy with ROPS/FOPS, isolation mounted
●	●	●	●	●	Key-less start with multiple security modes
●	●	●	●	●	Sealed-switch module with function indicators
●					Seat with backrest extension, deep foam, vinyl cover, and adjustable air suspension
●	●	●	●	●	Hydraulic controls integrated to seat
●	●	●	●	●	Seat belt, 76 mm (3 in.), with retractor
●	●	●	●	●	Cup holders (2)
●	●	●	●	●	Lunch-box/cooler holder
●	●	●	●	●	Dome and reading light
▲	●	●	●	●	12-volt power port
●	●	●	●	●	Rubber floor mat
●	●	●	●	●	Tilt steering column
●	●	●	●	●	Operator's manual storage compartment
●	●				Outside (2) and inside (1) rearview mirrors
		●	●	●	Outside (2) and inside (2) rearview mirrors
●	●	●	●	●	Left-side operator-station access
●	●	●	●	●	Slip-resistant steps and ergonomic handholds
▲					Quiet cab with heater
▲	●	●	●	●	Quiet cab with air conditioning/heater
	●	●	●	●	Sun visor
	●	●	●	●	Radio ready
	●	●	●	●	Front and rear intermittent windshield wiper and washers
▲	▲	▲	▲	●	Premium seat with high-wide back and headrest extension, heated, leather/fabric cover, and adjustable air suspension
▲	●	●	●		Seat with backrest extension, deep foam, fabric cover, and adjustable air suspension

644	724	744	824	844	Operator's Station *(continued)*
▲	▲	▲	▲	▲	Powered cab air pre-cleaner
▲	▲	▲	▲	▲	Large heated outside mirrors
▲	▲	▲	▲	▲	Beacon bracket
▲	▲	▲	▲	▲	Rear camera and radar object-detection system
▲	▲	▲	▲	▲	Embedded payload scale
▲	▲	▲	▲	▲	Fire extinguisher
▲					ROPS canopy rear window
					Loader Linkage
●	●	●	●	●	Z-bar loader linkage
▲					Powerllel linkage for visibility and parallel-lift
▲	▲	▲	▲		High-lift Z-bar loader linkage
					Buckets and Attachments
●	●	●	●	●	Full line of Deere pin-on buckets
▲	▲				Hi-Vis hydraulic coupler which accepts Euro-pattern attachments (Volvo)
▲					Full line of Deere hook-on buckets and forks
	▲	▲	▲	▲	Bolt-on bucket spill guard
▲					Bolt-on fork frame guard
					Overall Vehicle
●	●	●	●	●	JDLink™ Ultimate wireless communication system (available in specific countries; see your dealer for details)
●	●	●	●		NeverGrease™ rear-axle oscillation
●	●	●	●	●	NeverGrease steering-cylinder joints
				●	Bushed pin joints (including static joints on bucket and steering cylinders)
●	●	●	●	●	Front and rear tie-downs (844K includes mid 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
●	●	●	●	●	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
●	●				23.5R25 L3 radial tires on 3-piece rims
		●	●		26.5R25 L3 radial tires on 3-piece rims
			▲	●	29.5R25 L3 radial tires on 3-piece rims
▲	▲	▲			Waste handler (Z-bar and High-Lift)
▲	▲	▲	▲	▲	NeverGrease linkage (Z-bar and High-Lift)
▲	▲	▲	●	●	Transmission side-frame and bottom guards with Level 2 sound package
▲	▲	▲	▲	▲	Fast-fuel system
▲	▲	▲	▲	▲	Quick fluid service (engine, transmission, hydraulic oils, and engine coolant)
▲	▲	▲	▲	▲	Fenders, full-coverage, front
▲	▲	▲	▲	▲	Fenders, full-coverage, front and rear
▲					Close-mounted steps
▲	▲	▲			Less wheels and tires with axle stops
▲	▲	▲			Rims less tires
▲	▲	●	●	●	Lift eyes
▲	▲	▲	▲	▲	License-plate bracket and light
▲					Forestry-application package (Powerllel only)
▲	▲	▲	▲		Special guarding for waste and forestry applications

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 units 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.

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