

K-SERIES LOADERS

644K/724K

167–197 kW (224–264 net hp)



JOHN DEERE



Job driven. Customer inspired.

Secured keyless start. Advanced onboard diagnostics. Innovative Quad-Cool™ system with cool-on-demand swing-out fan. These and the many other features found in our 644K and 724K come from listening to customer needs and responding with exceptionally productive, durable, and versatile loaders. Check out the K-Series Loader line today. And be prepared to become an inspired customer yourself.



Key Specifications	644K	724K
Net Peak Power	167 kW (224 hp)	197 kW (264 hp)
Bucket Capacity	3.1–3.2 m ³ (4.0–4.25 cu. yd.)	3.1–3.6 m ³ (4.0–4.75 cu. yd.)
Z-Bar:		
Tipping Load, 40-deg. Full Turn, No Tire Deflection	12 879 kg (28,393 lb.)	14 279 kg (31,481 lb.)
Breakout Force	15 378 kg (33,903 lb.)	15 607 kg (34,408 lb.)
Operating Weight	18 333 kg (40,417 lb.)	19 299 kg (42,548 lb.)

K-Series Loaders ride on a wide stance that provides additional lateral stability for handling heavy loads and working on rough terrain. Overall balance is exceptional.

Fluid-efficient John Deere PowerTech™ Plus Tier 3/Stage IIIA/Brazil MAR-I and PowerTech™ Tier 2/Stage II diesels provide generous displacement, power, and lugging ability. They maintain impressive torque reserves for great boom and bucket speeds in and out of the pile, delivering heaped loads — even in wet- or hard-packed material.

John Deere WorkSight™ is an exclusive suite of telematics solutions that increases uptime while lowering operating costs. At its heart, JDLink™ Ultimate machine monitoring provides real-time utilization data and alerts to help you maximize productivity and efficiency while minimizing downtime. Remote diagnostics enable your dealer to read codes and record performance data without a trip to the jobsite.



A detailed view of the operator's seat and control area in a K-Series Loader cab. The seat is a high-back, air-ride seat with a grey fabric upholstery and a black seatback. The control console is black and features a steering wheel, a gear shifter, and a multifunction monitor. A red cup is visible in a holder on the right side of the console. The background shows the metal frame of the cab and the window.

Hard work made simple.

What operator wouldn't be more productive in the high-back air-ride seat of a K-Series Loader? Up front, an enhanced multifunction monitor displays operating, diagnostic, and maintenance info on a color LCD screen with easy-on-the-eyes clarity. Generous tinted glass and a low-profile console allow a commanding view of the jobsite. Spacious and quiet cab boasts seat-mounted controls, fatigue-beating ergonomics, and plenty of limb-stretching legroom. And their sealed-switch modules with keyless start and push-button operation of other machine functions help you work harder with less effort.



To help prevent unauthorized machine operation, the keyless-start security system requires a numeric pass code (when activated).

Available premium heated air-ride arm-chair seat adjusts multiple ways for extra comfort and cushioning.

Standard eight-amp converter (15 amp optional) and a 12-volt outlet provide convenient power for cell phones and other electronic devices.

Brake and throttle pedals are conveniently positioned, allowing plenty of legroom and easy entrance and exit.

Adjustable automotive-style louvers provide effective airflow to keep the glass clear and pressurized cab comfortable.

1. Multi-language color LCD monitor provides push-button access to a wealth of machine data and functions:

Vital information, including transmission mode, gear, engine rpm, and ground speed.

Enhanced onboard diagnostics with speed, pressure, temperature readings, and switch status.

Customized machine settings — Quick Shift, Auto-to-1st, and ride control (standard on the 724K, optional on the 644K) match your operating characteristics to specific jobs and conditions.

2. Backlit touchpad in the sealed-switch module controls keyless start and 24 other machine functions, allowing the operator to activate boom-height kick-out, return-to-carry, and return-to-dig from the seat.

3. Optional rearview camera provides maximum visibility via an LCD screen. Available dealer-installed radar object-detection system includes an audible alert for extra awareness in tight quarters and high-traffic areas.

4. Spacious cab with a cooler compartment and beverage holder provides plenty of room to stow your stuff.

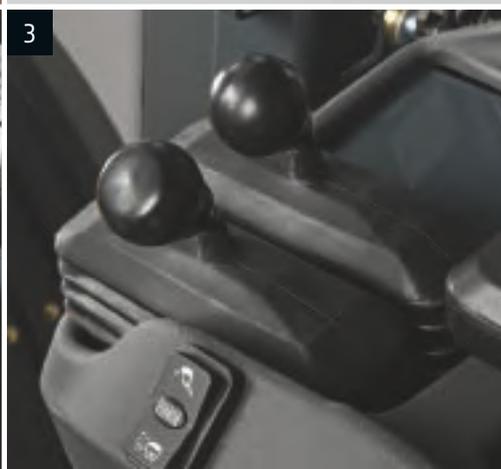


More power and control mean more productivity.

If you've got maximum productivity in mind, put a 644K or 724K Loader at the top of your list. It's not just big torque reserves that make them such impressive performers. Single-lever joystick or two-lever fingertip controls provide smooth, near-effortless control. Excavator-style hydraulics sense the load to better deliver the flow needed for combined functions and fast work cycles. And you won't find a smoother-shifting loader — the standard PowerShift transmission with smart shift technology continuously evaluates speed and load conditions, and adjusts clutch-pack engagement to suit.



1. New adaptive clutch cutoff automatically provides more power to the hydraulic system, ensures smooth control at high engine rpms and low speeds, and allows for better machine handling in all terrain without the operator having to change settings.
2. Choose between a single-lever joystick or...
3. ...two-lever fingertip pilot-operated hydraulic controls.



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

Even when working with large, wet loads, K-Series Loaders maintain excellent boom and bucket power into and out of the pile.

Wheel-spin control (standard on 724K, optional on 644K) boosts productivity by improving traction in troublesome under-foot conditions, reducing tire wear, fuel costs, and operator fatigue.

Boom-height kickout and return-to-carry functions speed production in repetitive loading applications.

Joystick F-N-R selector provides convenient direction and full-range gear changes, and includes an innovative Quick-Shift feature for push-button gear changes.

Responsive steering and full 80-deg. articulation increase maneuverability in tight quarters, delivering faster cycle times with fewer three-point turns.



Discover your options.

K-Series Loaders come standard with plenty of production-boosting features to help you handle almost anything you throw their way. But yours isn't just any application, so we've got you covered with a wide variety of factory- or dealer-installed options. Equip your loader with exactly what you need to maximize your efforts and expand your opportunities.

1. Automatic differential lock engages as soon as a tire begins to slip. It's ideal for inexperienced operators or applications requiring high traction, such as stockpiling silage, plowing snow, and handling pipe.

2. With ride control (standard on 724K, optional on 644K), lift cylinders act as shock absorbers, cushioning bumps to navigate over rough ground without losing material. Auto-actuation travel speed is adjustable from 1.5 to 24.0 km/h (1.0 to 15.0 mph).

3. Worksite Pro™ Hi-Vis couplers increase jobsite versatility and make switchover of a broad range of Deere and other attachments push-button easy.



General-purpose or excavating buckets are available in pin-on or coupler configurations from 3.1–3.6 m³ (4.0–4.75 cu. yd). Or opt for forks with 1.52- and 1.83-m (60 and 72 in.) tines, depending on model.

Powered cab pre-cleaner is a smart addition in high airborne-debris environments.

Optional corrosion package to shields electrical components and connections, and helps prevent corrosive materials from short-circuiting your productivity.

Need to take productivity to another level? High-Lift option extends lift height up to 356 mm (14 in.).

Integrated tire-pressure monitor helps maximize tire life and fuel efficiency. You can quickly check tire pressure via JDLink.

Opt for full-tire front and rear fenders and flaps to help keep the machine free of mud and debris.

Standard left-side service steps and handholds are slip resistant, providing safe access to the cab. Optional right-side steps and handrails are also available.



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Nothing runs — or is built — like a Deere.

It's all about uptime. So we gave both K-Loaders traditional John Deere durability features. They boast standard heavy-duty wet-sleeve diesels, Quad-Cool, and solid-state electrical systems. Other uptime-boosting features include reinforced articulation joints with double-tapered roller bearings, and 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 Deere.



Electrical-distribution center employs reliable circuit-board technology and solid-state switches to eliminate many wiring harnesses, fuses, relays, and connectors. Sealed gold-pin electrical connectors resist corrosion for long-term integrity.

Standard features like bypass-start protection, automatic park brake, and convenient handholds help keep the operator out of harm's way. Slip-resistant steps and platforms are available on both sides of the machine to provide safer access.

John Deere PowerTech Plus Tier 3/Stage IIIA/Brazil MAR-I and PowerTech Tier 2/Stage II diesel engines meet emission regulations without sacrificing power or torque.

1. Optional programmable fan automatically reverses at predetermined intervals, ejecting debris from the radiator and cooler cores. Or choose your own cleaning cycles through the monitor.

2. Efficient and rugged Quad-Cool places the radiator, air-conditioner condenser, intercooler, and hydraulic, transmission, and standard axle coolers in a unique boxed configuration that's isolated from engine heat.

3. Planetary final drives are mounted inboard. Hydraulic wet-disc brakes on both models are self-adjusting.



Sealed-switch module keeps out dust, moisture, and debris, and virtually never wears out. Proven marine-grade touchpad eliminates rocker switches and nearly 100 wires, keeping things simple and durable.

Four steel plates support the loader tower, extending pin life and protecting the boom-cylinder hoses.

Standard starter protection limits cranking time and requires cool-down periods between attempts.

Wet-sleeve engine liners provide uniform engine cooling for less oil breakdown and longer durability than cast-in-block designs.

Wide-mouth fuel tank allows quick and convenient ground-level fill-ups — generous tank capacity lets you work longer.

Heavy-duty axles employ cooling, filtration, and temperature monitoring to increase durability.

Stretches your dollars, not your service techs.

Controlling daily owning and operating costs shouldn't be a reach — and it's not on a K-Series Loader. Same-side ground-level service points make quick work of the daily routine. Unique Quad-Cool system provides wide-open access to both sides of the coolers for easy cleanout. Extended service intervals let you work longer between changes. And because no maintenance beats low maintenance, standard self-adjusting serpentine engine belts and wet-disc brakes seldom, if ever, require attention. That's just for starters. The list of K-Series features that help minimize maintenance goes on and on. And so will the owning and operating cost savings you'll enjoy.

1. Vertical spin-on filters allow quick, no-spill changes. Extended 500-, 2,000-, and 4,000-hour engine, transmission, and hydraulic oil-service intervals help reduce operating costs.
2. Ground-level fuel fill access helps speed servicing for more uptime.
3. If something goes wrong, the easy-to-navigate LCD monitor displays diagnostic messages and offers possible solutions to help get you back up and running quickly.
4. Color-coded fluid-sample and diagnostic test ports help speed preventive maintenance and troubleshooting. Noninvasive design helps keep out contaminants.
5. Conveniently located, easy-to-read sight gauges and see-through reservoirs let you check transmission, hydraulic, coolant, and windshield washer fluid levels at a glance.
6. Master electrical-disconnect switch is enclosed in a lockable compartment beneath the right-side step, for ground-level convenience.





Greasing is less messy thanks to centralized lube banks that provide easy access to zerks. Conveniently located periodic lube and maintenance chart confirms that nothing gets overlooked.

Inboard planetary final drives and self-adjusting wet-disc brakes are virtually maintenance-free.

Hydraulically driven fan runs only as needed for efficient cooling. Helps conserve fuel, too.

All daily service points including fueling are grouped on the left side for quick and convenient ground-level access.

3-mm (0.12 in.) side-shield perforations block most airborne debris. Unlike stacked coolers, Quad-Cool cores resist plugging and are easily accessible from either side, for quick and easy cleanout.

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



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644K

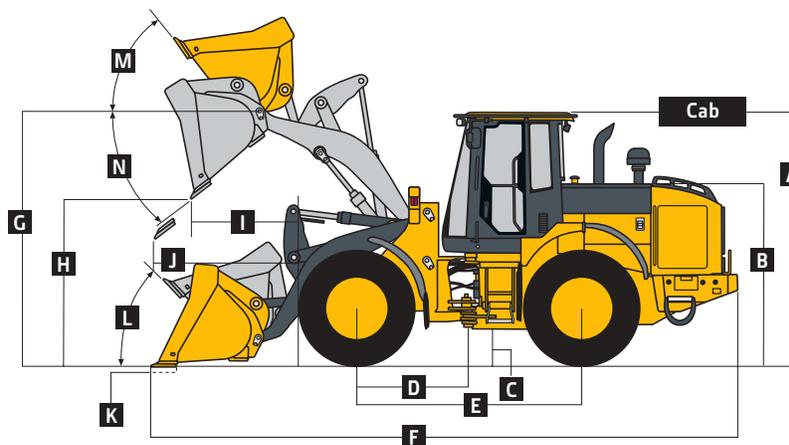


Engine		644K Z-BAR / HIGH-LIFT		
Manufacturer and Model	John Deere PowerTech™ 6068H	John Deere PowerTech™ Plus 6068H		
Non-Road Emission Standard	EPA Tier 2/EU Stage II	EPA Tier 3/EU Stage IIIA and Brazil MAR-I emissions		
Cylinders	6	6		
Valves Per Cylinder	4	4		
Displacement	6.8 L (414 cu. in.)	6.8 L (414 cu. in.)		
Peak Power (ISO 9249)				
Net	167 kW (224 hp) at 1,700 rpm	167 kW (224 hp) at 1,700 rpm		
Gross	175 kW (234 hp) at 1,700 rpm	175 kW (234 hp) at 1,700 rpm		
Peak Torque (ISO 9249)				
Net	985 Nm (726 lb.-ft.) at 1,400 rpm	985 Nm (726 lb.-ft.) at 1,400 rpm		
Gross	1024 Nm (755 lb.-ft.) at 1,400 rpm	1024 Nm (755 lb.-ft.) at 1,400 rpm		
Net Torque Rise	44%	44%		
Fuel System (electronically controlled)	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		
Aspiration	Turbocharged, charge air cooled	Turbocharged, charge air cooled		
Air Cleaner	Under-hood, dual-element dry type, restriction indicator in cab monitor for service			
Cooling				
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers			
Electrical				
Electrical System	24 volt with 80-amp alternator (optional 100-amp alternator)			
Batteries (2 – 12 volt)	750 CCA (each)			
Lights	Driving lights with guard, turn signals, and flashers; stop- and taillight; work lights: front (2) and rear (2); halogen engine-compartment light and switch (option)			
Transmission System				
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 1 clutch cutoff setting			
	<i>Standard 5-Speed with Lockup Torque Converter</i>		<i>Optional 4-Speed</i>	
Maximum Travel Speeds (with 23.5 R 25 tires)	<i>Forward</i>	<i>Reverse</i>	<i>Forward</i>	<i>Reverse</i>
Range 1	6.8 km/h (4.2 mph)	7.2 km/h (4.5 mph)	6.9 km/h (4.3 mph)	7.3 km/h (4.5 mph)
Range 2	12.4 km/h (7.7 mph)	13.1 km/h (8.1 mph)	11.3 km/h (7.0 mph)	11.9 km/h (7.4 mph)
Range 3	20.9 km/h (13.0 mph)	26.6 km/h (16.5 mph)	21.7 km/h (13.5 mph)	22.7 km/h (14.1 mph)
Range 4	25.3 km/h (15.7 mph)	N/A	33.1 km/h (20.6 mph)	N/A
Range 5	40.0 km/h (24.9 mph)	N/A	N/A	N/A
Axles/Brakes				
Final Drives	Heavy-duty inboard-mounted planetary			
Differentials	Hydraulic locking front with conventional rear – standard; dual locking front and rear – optional			
Rear Axle Oscillation, Stop to Stop (with 23.5 R 25 tires)	26 deg. (13 deg. each direction)			
Brakes (conform to ISO 3450)				
Service	Hydraulically actuated, spring-retracted, self-adjusting, inboard sun-shaft mounted, oil cooled, single disc			
Parking	Automatic spring applied, hydraulically released, driveline mounted, oil cooled, multi disc			
Tires/Wheels (see page 16 for complete tire adjustments)				
	<i>Tread Width</i>	<i>Width Over Tires</i>		
Michelin 23.5 R 25, 1 Star L-3	2170 mm (85.4 in.)	2875 mm (113.2 in.)		
Serviceability				
Refill Capacities	EPA Tier 2/EU Stage II and EPA Tier 3/EU Stage IIIA			
Fuel Tank with Lockable Cap	352 L (93 gal.)			
Engine Cooling System	29.5 L (31.2 qt.)			
Engine Oil with Vertical Spin-On Filter	24.5 L (26 qt.)			
Transmission Reservoir with Vertical Filter	27 L (28.5 qt.)			
Axle Oil (front and rear, each)	22 L (23 qt.)			
Hydraulic Reservoir and Filter	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	297 L/m (78 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			



Hydraulic System/Steering (continued)		644K Z-BAR / HIGH-LIFT	
Steering (conforms to ISO 5010)		Steering-column-mounted, twist-grip shift lever; Quick-Shift button on hydraulic lever	
Type		Power, fully hydraulic	
Articulation Angle		80-deg. arc (40-deg. each direction)	
Turning Radius (measured to centerline of outside tire)		5.57 m (18 ft. 3 in.)	
Hydraulic Cycle Times			
Raise		6.4 sec.	
Dump		1.6 sec.	
Lower (float down)		3.0 sec.	
Total		11.0 sec.	

Dimensions and Specifications with Pin-On Bucket



644K Z-BAR AND HIGH-LIFT LOADERS WITH PIN-ON BUCKET

	Z-Bar	High-Lift
Dimensions with Bucket	<i>3.2-m³ (4.25 cu. yd.) general-purpose with bolt-on edge</i>	<i>3.2-m³ (4.25 cu. yd.) general-purpose with bolt-on edge</i>
A Height to Top of Cab	3.43 m (11 ft. 3 in.)	3.43 m (11 ft. 3 in.)
B Hood Height	2.53 m (8 ft. 4 in.)	2.53 m (8 ft. 4 in.)
C Ground Clearance	461 mm (18.1 in.)	461 mm (18.1 in.)
D Length from Centerline to Front Axle	1.60 m (5 ft. 3 in.)	1.60 m (5 ft. 3 in.)
E Wheelbase	3.26 m (10 ft. 8 in.)	3.26 m (10 ft. 8 in.)
F Overall Length, Bucket on Ground	8.30 m (27 ft. 3 in.)	8.77 m (28 ft. 9 in.)
G Height to Hinge Pin, Fully Raised	4.12 m (13 ft. 6 in.)	4.54 m (14 ft. 11 in.)
H Dump Clearance, 45 deg., Full Height	2.91 m (9 ft. 6.5 in.)	3.33 m (10 ft. 11.1 in.)
I Reach, 45-deg. Dump, Full Height	1.06 m (3 ft. 5.7 in.)	1.19 m (3 ft. 10.9 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	1.61 m (5 ft. 3.4 in.)	2.06 m (6 ft. 9.1 in.)
K Maximum Digging Depth	106 mm (4.2 in.)	200 mm (7.9 in.)
L Maximum Rollback at Ground Level	42 deg.	41 deg.
M Maximum Rollback, Boom Fully Raised	55 deg.	47 deg.
N Maximum Bucket Dump Angle, Fully Raised	50 deg.	45 deg.
Loader Clearance Circle, Bucket Carry Position	13.19 m (43 ft. 3.1 in.)	13.62 m (44 ft. 8.2 in.)
Specifications with Bucket		
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 with Bolt-On Cutting Edge	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, No Tire Deflection	14 906 kg (32,862 lb.)	12 237 kg (26,978 lb.)
Tipping Load, Straight, with Tire Deflection	14 250 kg (31,416 lb.)	11 829 kg (26,078 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	12 879 kg (28,393 lb.)	10 508 kg (23,165 lb.)
Tipping Load, 40-deg. Full Turn, with Tire Deflection	11 967 kg (26,383 lb.)	9882 kg (21,786 lb.)
Rated Operating Load, 50% Full Turn Tipping Load, No Tire Deflection (conforms to ISO 14397-1)*	6440 kg (14,197 lb.)	5254 kg (11,583 lb.)
Rated Operating Load, 50% Full Turn Tipping Load, with Tire Deflection (conforms to ISO 14397-1)*	5984 kg (13,191 lb.)	4941 kg (10,893 lb.)
Operating Weight	18 333 kg (40,417 lb.)	18 700 kg (41,226 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech Plus 6068H (EPA Tier 3/EU Stage IIIA and Brazil MAR-I emissions) engine, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.

**Rated operating capacity based on Deere attachments only.*

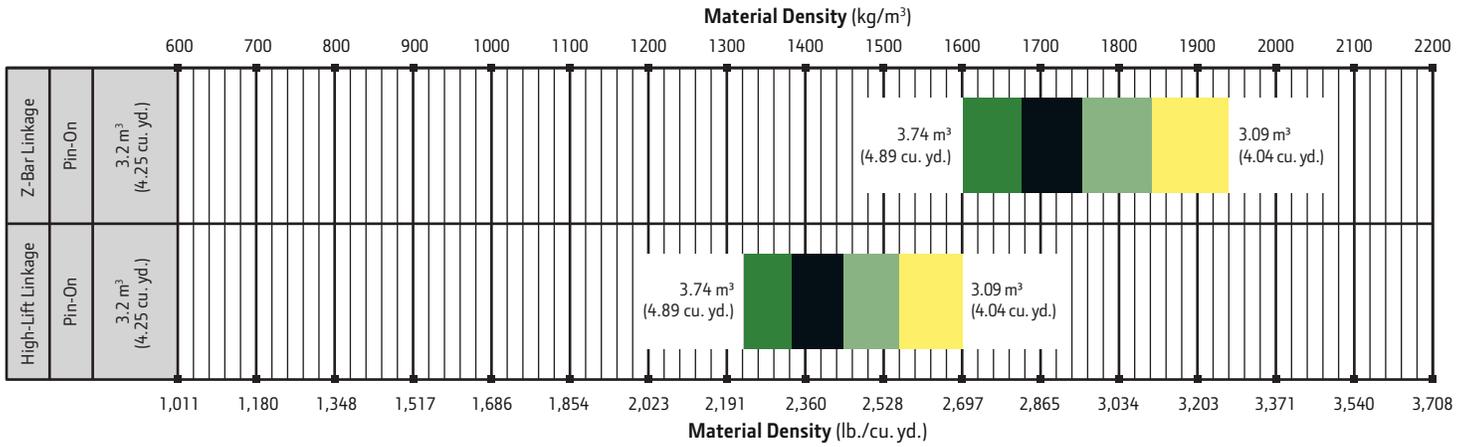
Adjustments to Operating Weights and Tipping Loads with Buckets

644K Z-BAR / HIGH-LIFT

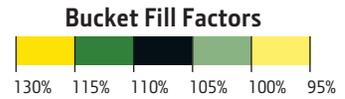
Adjustments to operating weights, tipping loads, and tires are based on Z-Bar machine and standard equipment with pin-on 3.2-m³ (4.25 cu. yd.) general-purpose bucket with bolt-on cutting edge, ROPS cab, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.)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

Add (+) or deduct (-) kg (lb.) as indicated for loaders with 3-piece rims	Operating Weight	Tipping Load, Straight	Tipping Load, 40-deg. Full Turn	Tread Width	Width Over Tires	Vertical Height
John Deere PowerTech Plus 6068H	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	N/A	N/A	N/A
John Deere PowerTech 6068H	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	N/A	N/A	N/A
Michelin 23.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 mm (0 in.)	0 mm (0 in.)	0 mm (0 in.)
Firestone 23.5-25 L3 20 PR	-50 kg (-110 lb.)	-37 kg (-81.5 lb.)	-33 kg (-73 lb.)	-220 mm (-8.7 in.)	+8 mm (+0.3 in.)	+8 mm (+0.3 in.)
Michelin 23.5 R 25 L3 XLDN	-6 kg (-13.2 lb.)	-4 kg (-9 lb.)	-4 kg (-9 lb.)	0 mm (0 in.)	0 mm (0 in.)	-3 mm (-0.1 in.)
Bridgestone Radial 23.5 R 25, 1 Star L3 GP	-22 kg (-48.5 lb.)	-16 kg (-35.3 lb.)	-14 kg (-30.9 lb.)	-220 mm (-8.7 in.)	+18 mm (+0.7 in.)	-6 mm (-0.2 in.)
Firestone 23.5-25 L5 20 PR	+82 kg (+180.8 lb.)	+61 kg (+134.5 lb.)	+54 kg (+119 lb.)	0 mm (0 in.)	+16 mm (+0.6 in.)	+29 mm (+1.1 in.)

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



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



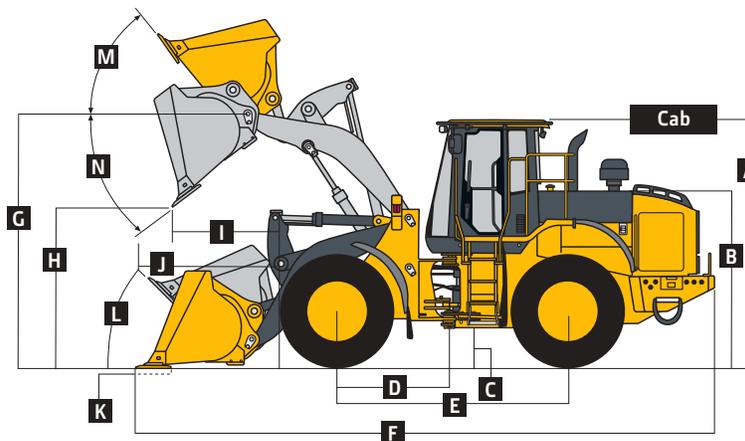
724K

Engine		724K Z-BAR / HIGH-LIFT	
Manufacturer and Model	John Deere PowerTech™ 6090H	John Deere PowerTech™ Plus 6090H	
Non-Road Emission Standard	EPA Tier 2/EU Stage II	EPA Tier 3/EU Stage IIIA and Brazil MAR-I emissions	
Cylinders	6	6	
Valves Per Cylinder	4	4	
Displacement	9.0 L (548 cu. in.)	9.0 L (548 cu. in.)	
Peak Power (ISO 9249)			
Net	197 kW (264 hp) at 1,800 rpm	197 kW (264 hp) at 1,800 rpm	
Gross	206 kW (276 hp) at 1,800 rpm	206 kW (276 hp) at 1,800 rpm	
Peak Torque (ISO 9249)			
Net	1159 Nm (855 lb.-ft.) at 1,300 rpm	1159 Nm (855 lb.-ft.) at 1,300 rpm	
Gross	1200 Nm (885 lb.-ft.) at 1,600 rpm	1200 Nm (885 lb.-ft.) at 1,600 rpm	
Net Torque Rise	67%	67%	
Fuel System (electronically controlled)	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	
Aspiration	Turbocharged, charge air cooled	Turbocharged, charge air cooled	
Air Cleaner	Under-hood, dual-element dry type, restriction indicator in cab monitor for service		
Cooling			
Fan Drive	Hydraulically driven, proportionally controlled, fan aft of coolers		
Electrical			
Electrical System	24 volt with 100-amp alternator		
Batteries (2 – 12 volt)	750 CCA (each)		
Lights	Driving lights with guard, turn signals, and flashers; stop- and taillight; work lights: front (2) and rear (2); halogen engine-compartment light and switch (option)		
Transmission System			
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 1 clutch cutoff setting		
	<i>Standard 5-Speed with Lockup Torque Converter</i>		<i>Optional 4-Speed</i>
Maximum Travel Speeds (with 23.5 R 25, 1 Star L3 tires)	<i>Forward</i>	<i>Reverse</i>	<i>Forward</i>
Range 1	6.8 km/h (4.2 mph)	7.2 km/h (4.5 mph)	7.0 km/h (4.3 mph)
Range 2	12.4 km/h (7.7 mph)	13.1 km/h (8.1 mph)	11.9 km/h (7.4 mph)
Range 3	20.9 km/h (13.0 mph)	26.6 km/h (16.5 mph)	22.4 km/h (13.9 mph)
Range 4	25.3 km/h (15.7 mph)	N/A	35.2 km/h (21.9 mph)
Range 5	40.0 km/h (24.9 mph)	N/A	N/A
Axles/Brakes			
Final Drives	Heavy-duty inboard-mounted planetary		
Differentials	Hydraulic locking front with conventional rear – standard; dual locking front and rear – optional		
Rear Axle Oscillation, Stop to Stop (with 23.5 R 25, 1 Star L3 tires)	26 deg. (13 deg. each direction)		
Brakes (conform to ISO 3450)			
Service	Hydraulically actuated, spring-retracted, self-adjusting, inboard sun-shaft mounted, oil cooled, single disc		
Parking	Automatic spring applied, hydraulically released, oil cooled, multi disc		
Tires/Wheels (see page 20 for complete tire adjustments)			
	<i>Tread Width</i>	<i>Width Over Tires</i>	
Michelin 23.5 R 25, 1 Star L-3	2170 mm (85.4 in.)	2880 mm (113.4 in.)	
Serviceability			
Refill Capacities	EPA Tier 2/EU Stage II and EPA Tier 3/EU Stage IIIA		
Fuel Tank with Lockable Cap	352 L (93 gal.)		
Cooling System	33.8 L (35.7 qt.)		
Engine Oil with Vertical Spin-On Filter	29.6 L (28 qt.)		
Transmission Reservoir with Vertical Filter	24 L (25 qt.)		
Axle Oil (front and rear, each)	22 L (23 qt.)		
Hydraulic Reservoir and Filter	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	297 L/m (78 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		


Hydraulic System/Steering (continued)
724K Z-BAR / HIGH-LIFT

Steering (conforms to ISO 5010)

Type	Power, fully hydraulic	
Articulation Angle	80-deg. arc (40-deg. each direction)	
Turning Radius (measured to centerline of outside tire)	5.64 m (18 ft. 6 in.)	
Hydraulic Cycle Times	<i>Z-Bar</i>	<i>High-Lift</i>
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.

Dimensions and Specifications with Pin-On Bucket

724K Z-BAR AND HIGH-LIFT LOADERS WITH PIN-ON BUCKET

	<i>Z-Bar</i>	<i>Z-Bar</i>	<i>High-Lift</i>	<i>High-Lift</i>
Dimensions with Bucket	<i>3.2-m³ (4.25 cu. yd.) general-purpose with bolt-on edge</i>	<i>3.6-m³ (4.75 cu. yd.) general-purpose with bolt-on edge</i>	<i>3.2-m³ (4.25 cu. yd.) general-purpose with bolt-on edge</i>	<i>3.6-m³ (4.75 cu. yd.) general-purpose with bolt-on edge</i>
A Height to Top of Cab	3.43 m (11 ft. 3 in.)			
B Hood Height	2.53 m (8 ft. 4 in.)			
C Ground Clearance	461 mm (18.1 in.)			
D Length from Centerline to Front Axle	1.60 m (5 ft. 3 in.)			
E Wheelbase	3.26 m (10 ft. 8 in.)			
F Overall Length, Bucket on Ground	8.20 m (26 ft. 11 in.)	8.31 m (27 ft. 3 in.)	8.67 m (28 ft. 5 in.)	8.78 m (28 ft. 10 in.)
G Height to Hinge Pin, Fully Raised	4.12 m (13 ft. 6 in.)	4.12 m (13 ft. 6 in.)	4.54 m (14 ft. 11 in.)	4.54 m (14 ft. 11 in.)
H Dump Clearance, 45 deg., Full Height	2.91 m (9 ft. 7 in.)	2.84 m (9 ft. 4 in.)	3.33 m (10 ft. 11 in.)	3.26 m (10 ft. 8 in.)
I Reach, 45-deg. Dump, Full Height	1.06 m (3 ft. 6 in.)	1.13 m (3 ft. 9 in.)	1.19 m (3 ft. 11 in.)	1.25 m (4 ft. 1 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	1.61 m (5 ft. 3 in.)	1.67 m (5 ft. 6 in.)	2.06 m (6 ft. 9 in.)	2.12 m (6 ft. 11 in.)
K Maximum Digging Depth	123 mm (5.0 in.)	123 mm (5.0 in.)	216 mm (8.5 in.)	216 mm (8.5 in.)
L Maximum Rollback at Ground Level	41 deg.	41 deg.	42 deg.	42 deg.
M Maximum Rollback, Boom Fully Raised	55 deg.	55 deg.	47 deg.	47 deg.
N Maximum Bucket Dump Angle, Fully Raised	50 deg.	50 deg.	45 deg.	45 deg.
Loader Clearance Circle, Bucket Carry Position	13.19 m (43 ft. 3 in.)	13.25 m (43 ft. 6 in.)	13.62 m (44 ft. 8 in.)	13.68 m (44 ft. 11 in.)
Specifications with Bucket				
Capacity, Heaped	3.2 m ³ (4.25 cu. yd.)	3.6 m ³ (4.75 cu. yd.)	3.2 m ³ (4.25 cu. yd.)	3.6 m ³ (4.75 cu. yd.)
Capacity, Struck	3.0 m ³ (3.5 cu. yd.)	3.2 m ³ (4.2 cu. yd.)	2.8 m ³ (3.7 cu. yd.)	3.2 m ³ (4.2 cu. yd.)
Bucket Weight with Bolt-On Cutting Edge	1736 kg (3,827 lb.)	1822 kg (4,016 lb.)	1736 kg (3,827 lb.)	1822 kg (4,017 lb.)
Bucket Width	3.04 m (10 ft. 0 in.)			
Breakout Force	15 607 kg (34,408 lb.)	14 398 kg (31,742 lb.)	13 884 kg (30,610 lb.)	12 968 kg (28,590 lb.)
Tipping Load, Straight, No Tire Deflection	16 552 kg (36,490 lb.)	16 278 kg (35,888 lb.)	13 368 kg (29,472 lb.)	13 137 kg (28,961 lb.)
Tipping Load, Straight, with Tire Deflection	15 594 kg (34,379 lb.)	15 327 kg (33,790 lb.)	12 696 kg (27,990 lb.)	12 468 kg (27,487 lb.)
Tipping Load, 40-deg. Full Turn, No Tire Deflection	14 279 kg (31,481 lb.)	14 029 kg (30,928 lb.)	11 477 kg (25,302 lb.)	11 263 kg (24,831 lb.)
Tipping Load, 40-deg. Full Turn, with Tire Deflection	13 074 kg (28,823 lb.)	12 828 kg (28,281 lb.)	10 602 kg (23,373 lb.)	10 392 kg (22,910 lb.)
Rated Operating Load, 50% Full Turn Tipping Load, No Tire Deflection (conforms to ISO 14397-1)*	7140 kg (15,741 lb.)	7015 kg (15,465 lb.)	5739 kg (12,652 lb.)	5632 kg (12,416 lb.)
Rated Operating Load, 50% Full Turn Tipping Load, with Tire Deflection (conforms to ISO 14397-1)*	6537 kg (14,412 lb.)	6414 kg (14,140 lb.)	5301 kg (11,687 lb.)	5196 kg (11,455 lb.)
Operating Weight	19 299 kg (42,548 lb.)	19 392 kg (42,752 lb.)	19 526 kg (43,047 lb.)	19 619 kg (43,252 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech Plus 6090H (EPA Tier 3/EU Stage IIIA and Brazil MAR-I emissions) engine, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.

*Rated operating capacity based on Deere attachments only.

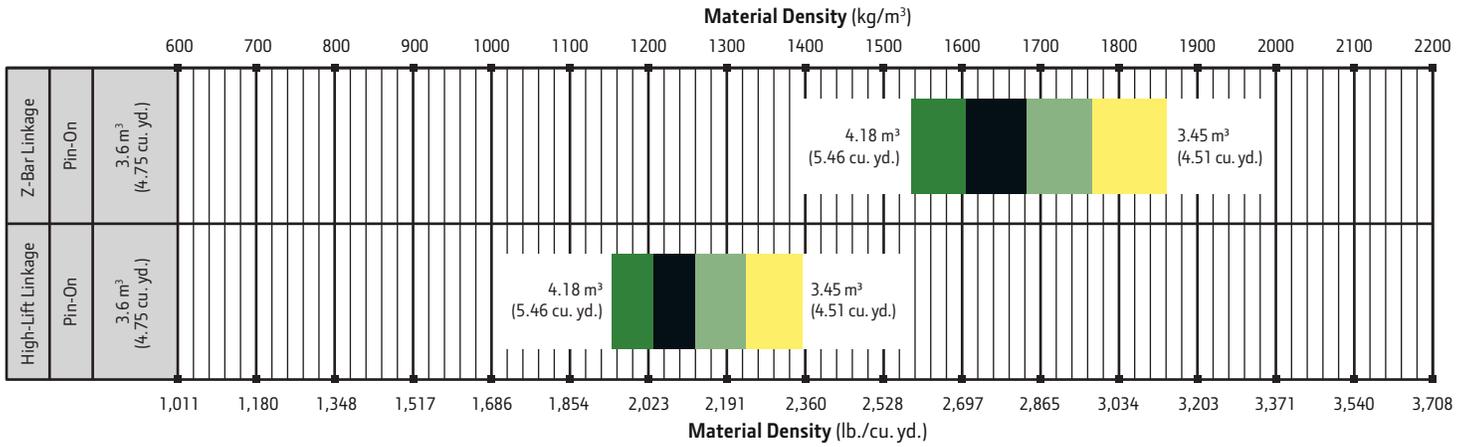
**Adjustments to Operating Weights
and Tipping Loads with Buckets**

724K Z-BAR / HIGH-LIFT

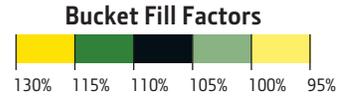
Adjustments to operating weights, tipping loads, and tires are based on Z-Bar machine and pin-on 3.6-m³ (4.75 cu. yd.) general-purpose bucket with bolt-on cutting edge, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator*

Add (+) or deduct (-) kg (lb.) as indicated for loaders with 3-piece rims	<i>Operating Weight</i>	<i>Tipping Load, Straight</i>	<i>Tipping Load, 40-deg. Full Turn</i>	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Vertical Height</i>
John Deere PowerTech Plus 6090H	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	N/A	N/A	N/A
John Deere PowerTech 6090H	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	N/A	N/A	N/A
Michelin 23.5 R 25, 1 Star L-3	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 mm (0 in.)	0 mm (0 in.)	0 mm (0 in.)
Firestone 23.5-25 L3 20 PR	-50 kg (-110 lb.)	-37 kg (-81.5 lb.)	-33 kg (-73 lb.)	-220 mm (-8.7 in.)	+8 mm (+0.3 in.)	+8 mm (+0.3 in.)
Michelin 23.5 R 25 L3 XLDN	-6 kg (-13.2 lb.)	-4 kg (-9 lb.)	-4 kg (-9 lb.)	0 mm (0 in.)	0 mm (0 in.)	-3 mm (-0.1 in.)
Bridgestone 23.5 R 25, 1 Star L3	-22 kg (-48.5 lb.)	-16 kg (-35.3 lb.)	-14 kg (-30.9 lb.)	-220 mm (-8.7 in.)	+18 mm (+0.7 in.)	-6 mm (-0.2 in.)
Firestone 23.5-25 L5 20 PR	+82 kg (+180.8 lb.)	+61 kg (+134.5 lb.)	+54 kg (+119 lb.)	0 mm (0 in.)	+16 mm (+0.6 in.)	+29 mm (+1.1 in.)

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



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



Additional equipment

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

644 724 Engine

- ● Wet-sleeve cylinder liners
- ● Automatic glow plugs for cold start
- ● 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
- Under-hood prescreened air intake
 - Electrical fuel-priming pump
- ● Dual-stage fuel filter and water separator
- ● 500-hour vertical spin-on oil filter
- ▲ ▲ Engine-compartment light
- ▲ ▲ Centrifugal engine air pre-cleaner
- ▲ ▲ Chrome exhaust stack
 - ▲ Automatic ether starting aid (recommended for cold starts below –12 deg. C [10 deg. F])

Powertrain

- ● Axle oil temperature sensing
- ● Programmable maximum high gear
- ● Clutch calibration engaged from monitor
- ● 2,000-hour vertical spin-on transmission filter
- ● Transmission fill tube and sight gauge
- ● Front locking differential
- ▲ ▲ Rear locking differential
- ● Transmission diagnostic ports
- ● 5-speed transmission with lockup torque converter
- ▲ ▲ 4-speed transmission with non-lockup torque converter
- ● Brake retractors and adjusters
- ▲ ▲ 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, hydraulically driven, swing-out fan
- ● Enclosed fan safety guard
- ▲ ▲ Automatic reversing fan drive
- ● Axle and service-brake coolers

644 724 Hydraulics

- ● Automatic return-to-dig bucket positioner
- ● In-cab adjustable automatic boom-height kickout/return to carry
- ● Reservoir with sight gauge and fill strainer
- ● Hydraulic diagnostic ports
- ● 4,000-hour in-tank filter
- ▲ ▲ 2 function — joystick with F-N-R
- ▲ ▲ 2 function — 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 — 3-lever fingertip controls and steering column F-N-R
- ▲ ▲ 4 function — 4 levers with steering column F-N-R
- ▲ ● Ride control, automatic with monitor-adjustable speed settings
- ▲ ▲ Cold-temperature hydraulic fluid recommended between –10 and –25 deg. C [14 and –13 deg. F]

Steering Systems

- ● Conventional steering wheel with spinner knob

Electrical

- ● Solid-state electrical power-distribution system
- ● Lockable master electrical-disconnect switch
- ● Battery-terminal safety covers
- ● By-pass start safety cover at starter
- ● Pre-wired for beacon/strobe light
- ● Lights: Halogen driving lights with guards (2) / Front (2) and rear (2) cab work lights / Turn signals and flashers / LED stop-and taillights
- ▲ ▲ Heavy-duty front LED turn signal and marker lights
- ● Programmable courtesy lights
- ● 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, and odometer)
- ● Integrated cycle counter with 5 categories
- ● Indicator lights: Standard and selected options / Amber caution and red stop
- ● Operator-warning messages
- ● Built-in diagnostics: Diagnostic-code details / Sensor values / Calibrations / Individual circuit tester
- ▲ ▲ Electrical corrosion-prevention package

Actual machine configuration may differ from image. Not all models available in all countries.

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.

Additional equipment *(continued)*

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

644 724 Electrical *(continued)*

- ▲ ▲ AM/FM/Weather-Band (WB) radio with CD player
- ▲ ▲ 24- to 12-volt, 15-amp converter
- ● 24- to 12-volt, 8-amp converter

Operator's Station

- ● Quiet Cab with air conditioning/heater
- ● Keyless start with multiple security modes
- ● Sealed-switch module with function indicators
- ● Seat with backrest extension, deep foam, fabric 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
- ● Left-side operator-station access
- ● Slip-resistant steps and ergonomic handholds
- ● Sun visor
- ● Front and rear intermittent windshield wiper and washers
- ▲ ▲ Beacon bracket
- ▲ ▲ Rear camera
- ▲ ▲ Rear camera with radar object-detection system
- ● LOADRITE™ L2180™ Payload Scale Ready

Loader Linkage

- ● Z-Bar loader linkage
- ▲ ▲ 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

644 724 Overall Vehicle

- ● JDLink™ Ultimate wireless communication system (available in specific countries; see your dealer for details)
- ● NeverGrease™ rear-axle oscillation
- ▲ ▲ NeverGrease™ steering cylinders
- ● Front and rear tie-downs
- ● Rear cast bumper with rear hitch and locking pin
- ● Articulation locking bar
- ● Loader boom service locking bar
- ● 40-deg. steering articulation to each side with rubber-cushion stops on frame
- ● Vandal protection with lockable engine enclosures, right counterweight storage, battery box, and filler access for radiator/fuel/hydraulic transmission
 - ● Right and left platforms with handrails
 - ● Left-side service steps and handholds
 - ▲ ▲ Right-side service steps and handholds
 - ● Storage compartment
 - ● Fuel-tank fill strainer
 - ● Heavy-duty fuel-tank guard
 - ● Ground-level fueling
 - ● Same-side ground-level daily servicing
 - ● Michelin 23.5 R 25, 1 Star L-3 tires on 3-piece rims
 - ● Environmental drains for engine, transmission, hydraulic oils, and engine coolant
- ▲ ▲ Quick fluid service (engine, transmission, hydraulic oils, and engine coolant)
- ● Fluid-sampling ports for engine, transmission, hydraulic and axle oils, and engine coolant
- ● Fenders, front
- ▲ ▲ Fender, full-coverage, front
- ▲ ▲ Fenders, full-coverage, front and rear
- ▲ ▲ Transmission side-frame guards
- ▲ ▲ Bottom guards, front frame and transmission
- ▲ ▲ Lift eyes

Actual machine configuration may differ from image. Not all models available in all countries.

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