

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			
	<i>Standard 4-Speed</i>		<i>Optional 5-Speed with Lockup Torque Converter</i>	
Travel Speeds (with 23.5-25 tires)	<i>Forward Maximum</i>	<i>Reverse Maximum</i>	<i>Forward Maximum</i>	<i>Reverse Maximum</i>
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)*	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>	
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 [§]	2170 mm (85.4 in.)	2899 mm (114.1 in.)	+ 7 mm (+ 0.3 in.)	
750/65 R 25, 1 Star L-3T ^{§§}	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.				
[§] 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)

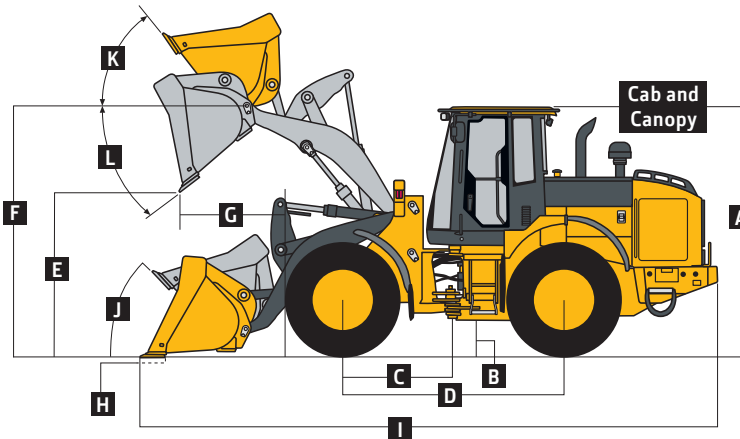
Type	Power, fully hydraulic
Articulation Angle	80-deg. arc (40-deg. each direction)

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.

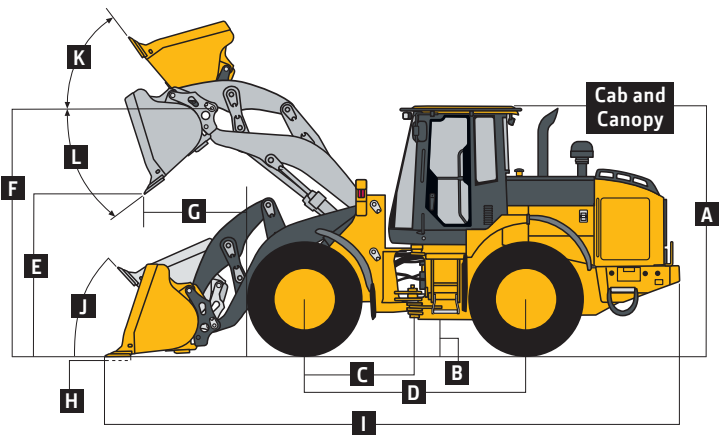
Turning Radius (measured to centerline of outside tire)	5.57 m (18 ft. 3 in.)
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Dimensions with Standard Configuration

	Z-BAR	HIGH-LIFT	POWERLLEL
	3.2-m ³ (4.25 cu. yd.) pin-on bucket	3.2-m ³ (4.25 cu. yd.) pin-on bucket	3.1-m ³ (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.

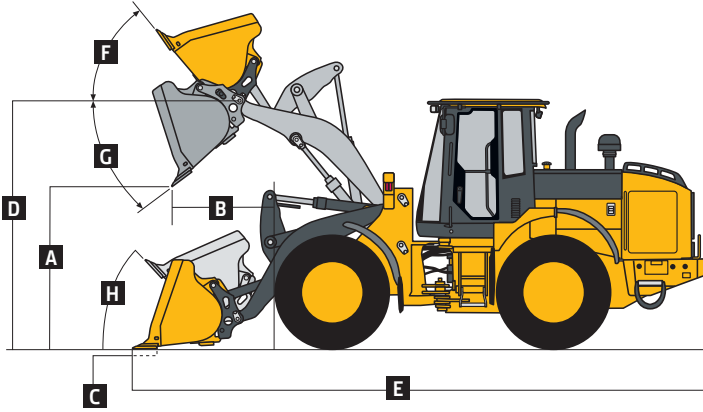


644K Z-BAR AND HIGH-LIFT LOADERS

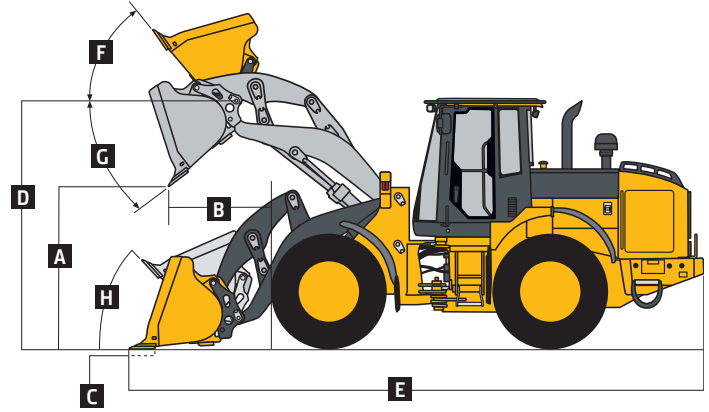


644K POWERLLEL LOADER

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.

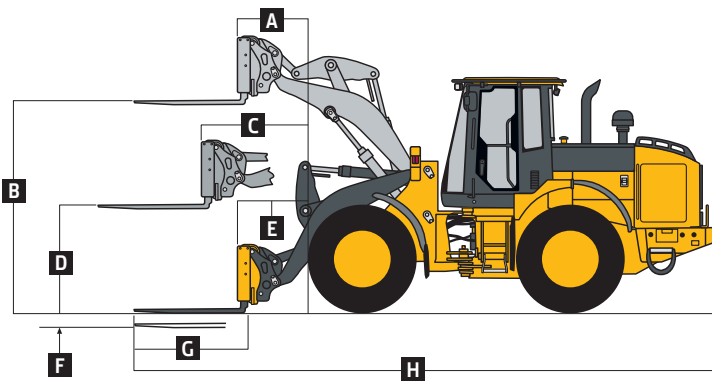


644K Z-BAR AND HIGH-LIFT LOADERS WITH QUICK-COUPLER AND HOOK-ON BUCKET

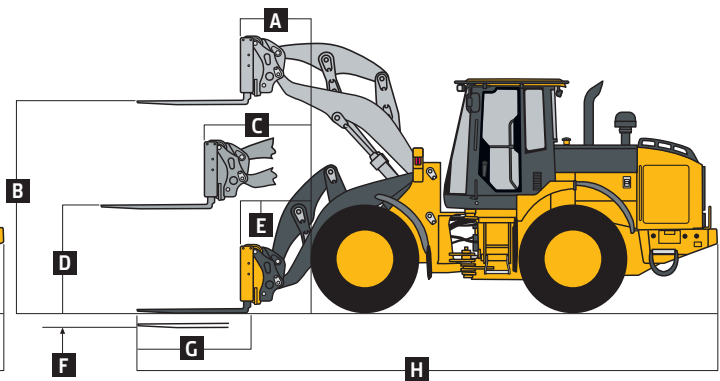


644K POWERLLEL LOADER WITH QUICK-COUPLER AND HOOK-ON BUCKET

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.)	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.)	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.)	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.)	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.)	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 [§]	+ 8 kg (+ 18 lb.)	+ 5 kg (+ 11 lb.)	+ 4 kg (+ 9 lb.)
750/65 R 25, 1 Star L-3T ^{§§}	+ 612 kg (+1,349 lb.)	+ 404 kg (+891 lb.)	+ 356 kg (+ 784 lb.)

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

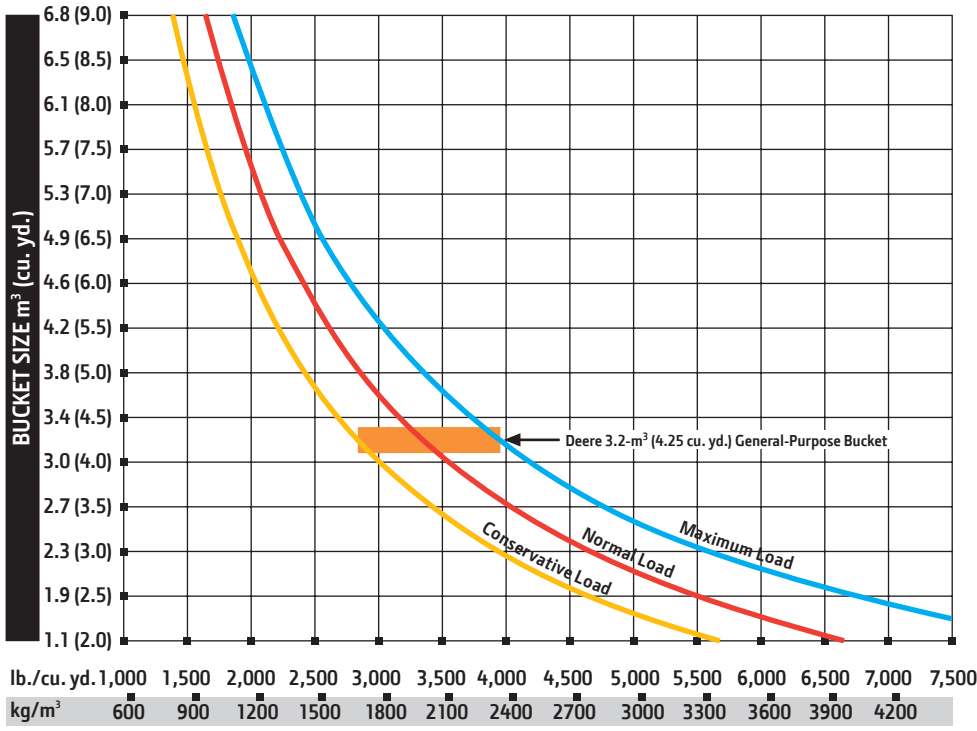
[§]Equipped with 5-piece heavy-duty rims.

[†]Equipped with 1-piece rims.

[§]Requires 9-deg. rear axle stops.

Bucket Selection Guides*

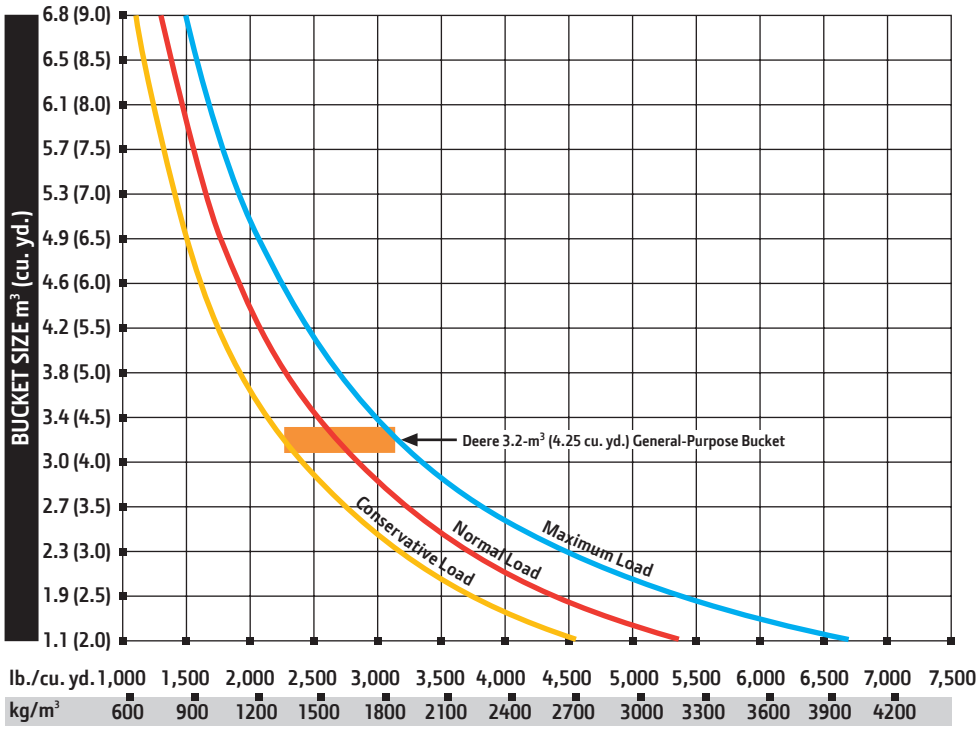
644K Z-BAR



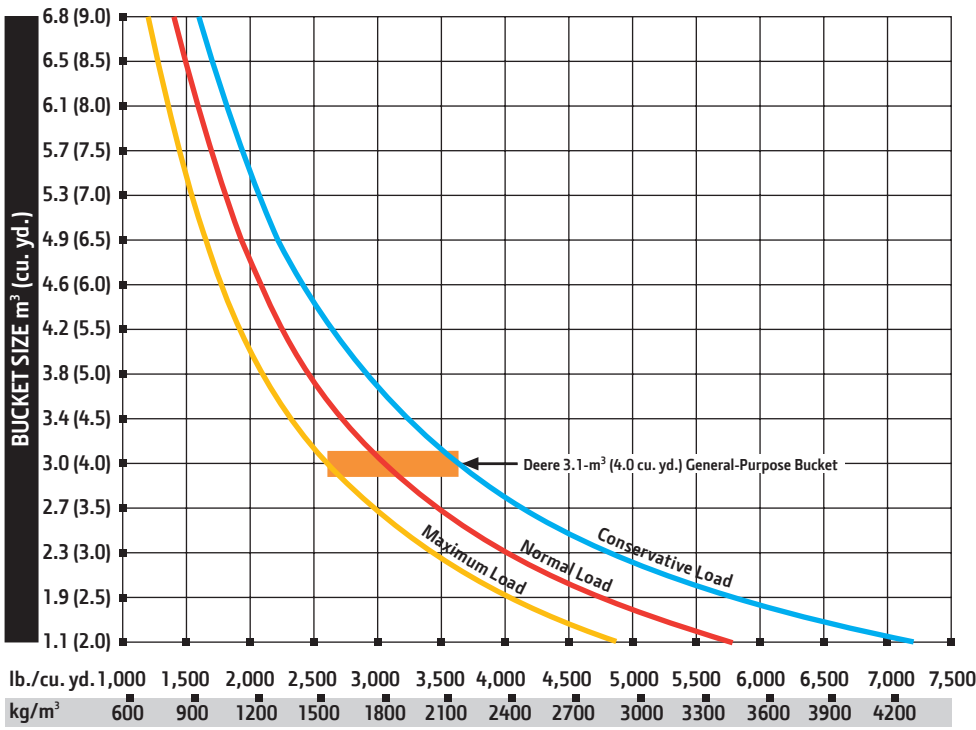
644K Z-BAR LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m ³	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



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.

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	John Deere PowerTech™ 6090H
Non-Road Emissions Standard	EPA Interim Tier 4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA	EPA Tier 3/EU Stage IIIA	EU Stage II
Cylinders	6	6	6	6
Valves Per Cylinder	4	4	4	4
Displacement	9.0 L (548 cu. in.)	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)	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.)	1158 Nm (852 lb.-ft.)
Net Torque Rise	61%	60%	60%	60%
Fuel System (electronically controlled)	High-pressure common rail	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	Full-flow spin-on filter and integral cooler
Aspiration	Turbocharged, charge air cooled	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	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	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	24 volt with 80-amp alternator
Batteries (2 – 12 volt)	1,400 CCA (each)	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			
	<i>Standard 4-Speed</i>		<i>Optional 5-Speed with Lockup Torque Converter</i>	
Travel Speeds (with 23.5 R 25, 1 Star L3 tires)	<i>Forward Maximum</i>	<i>Reverse Maximum</i>	<i>Forward Maximum</i>	<i>Reverse Maximum</i>
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)*	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>	
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.

[§]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.)

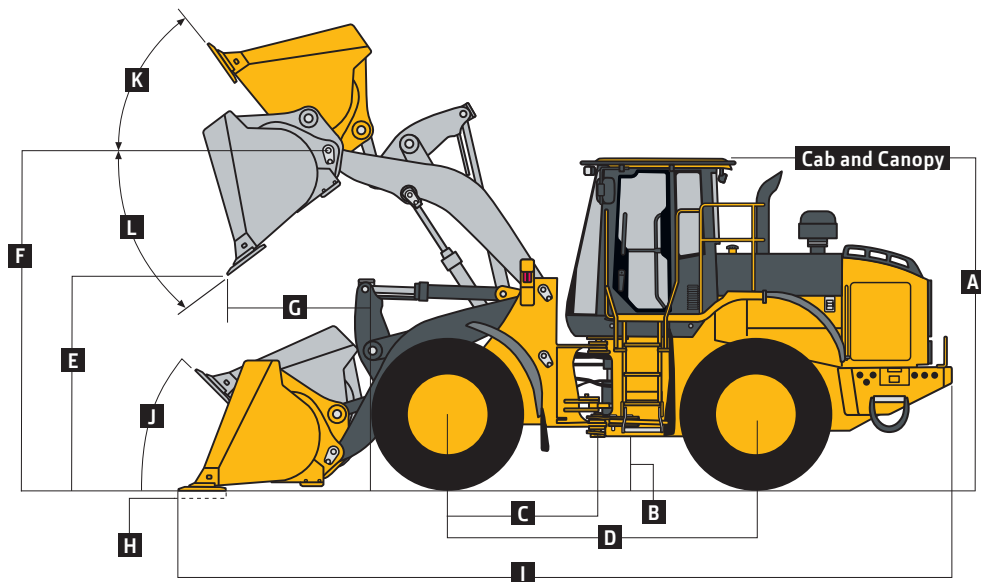
Hydraulic System/Steering

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.
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**

	<i>3.6-m³ (4.75 cu. yd.) pin-on bucket</i>	<i>3.2-m³ (4.25 cu. yd.) pin-on bucket</i>
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	<i>General-Purpose with Bolt-on Edge</i>	<i>General-Purpose with Bolt-on Edge</i>	<i>General-Purpose with Bolt-on Edge</i>	<i>General-Purpose with Bolt-on Edge</i>
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	<i>General-Purpose with Bolt-on Edge</i>	<i>General-Purpose with Bolt-on Edge</i>	
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*

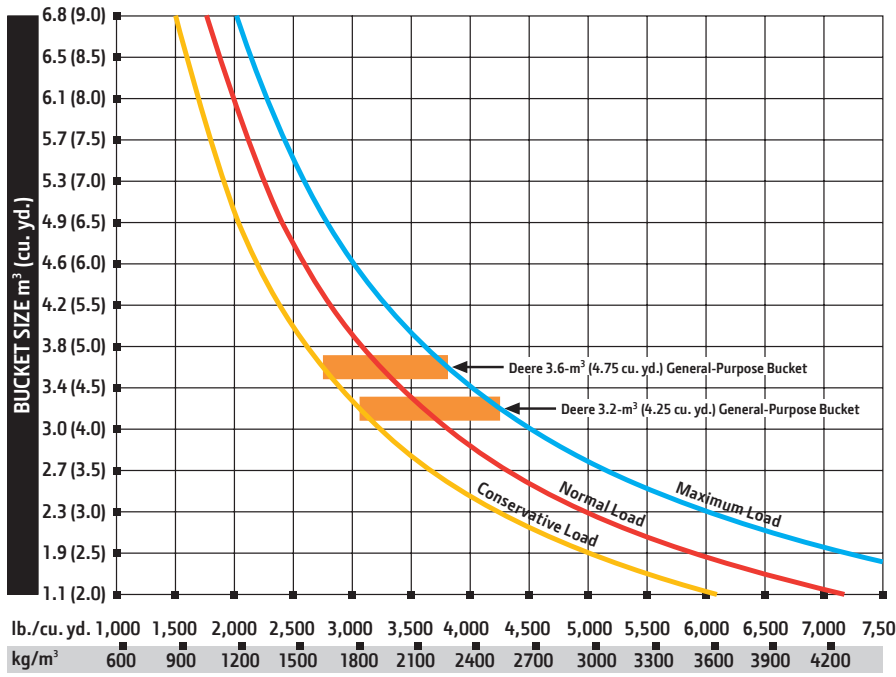
Add (+) or deduct (-) kg (lb.) as indicated for loaders with 5-piece rims and	Operating Weight	Tipping Load, Straight	Tipping Load, 40-deg. Full Turn SAE
John Deere PowerTech™ PVX 6090	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
John Deere PowerTech™ Plus 6090H	- 122 kg (- 246 lb.)	- 76 kg (- 168 lb.)	- 76 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.

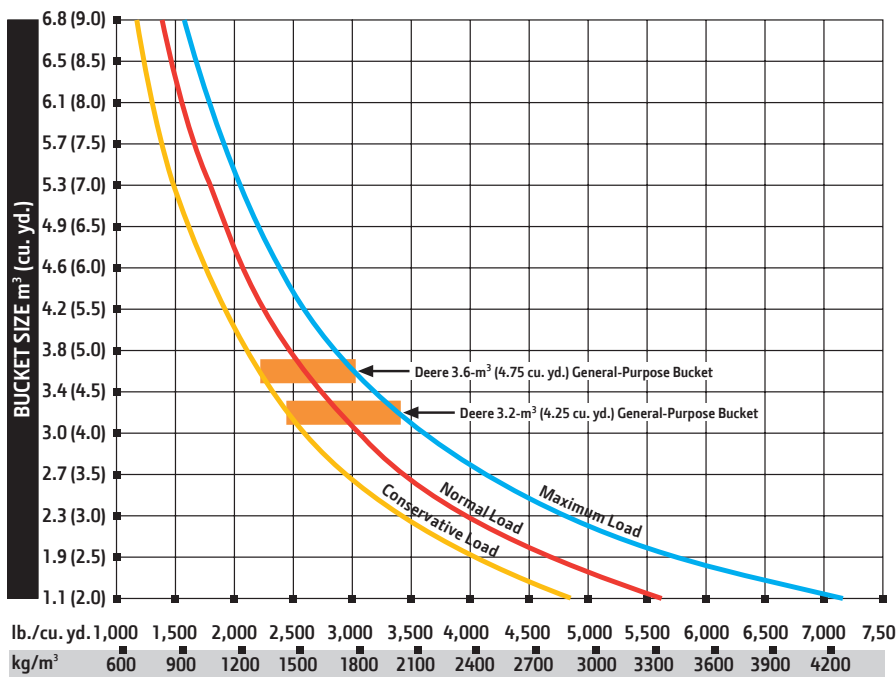
Bucket Selection Guides*



724K Z-BAR LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m ³	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/m ³	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	John Deere PowerTech™ 6090H
Non-Road Emissions Standard	EPA Interim Tier 4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA	EPA Tier 3/EU Stage IIIA	EU Stage II
Cylinders	6	6	6	6
Valves per Cylinder	4	4	4	4
Displacement	9.0 L (548 cu. in.)	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)	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.)	1456 Nm (1,074 lb.-ft.)
Net Torque Rise	47%	47%	47%	47%
Fuel System (electronically controlled)	High-pressure common rail	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	Full-flow spin-on filter and integral cooler
Aspiration	Series turbocharged, charge air cooled	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	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	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	24 volt with 80-amp alternator
Batteries (2 – 12 volt)	1,400 CCA (each)	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			
	<i>Standard 4-Speed Transmission</i>		<i>5-Speed Transmission with Lockup Torque Converter</i>	
Travel Speeds (with 26.5 R 25, 1 Star radial tires)	<i>Forward Maximum</i>	<i>Reverse Maximum</i>	<i>Forward Maximum</i>	<i>Reverse Maximum</i>
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)*	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>	
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.)

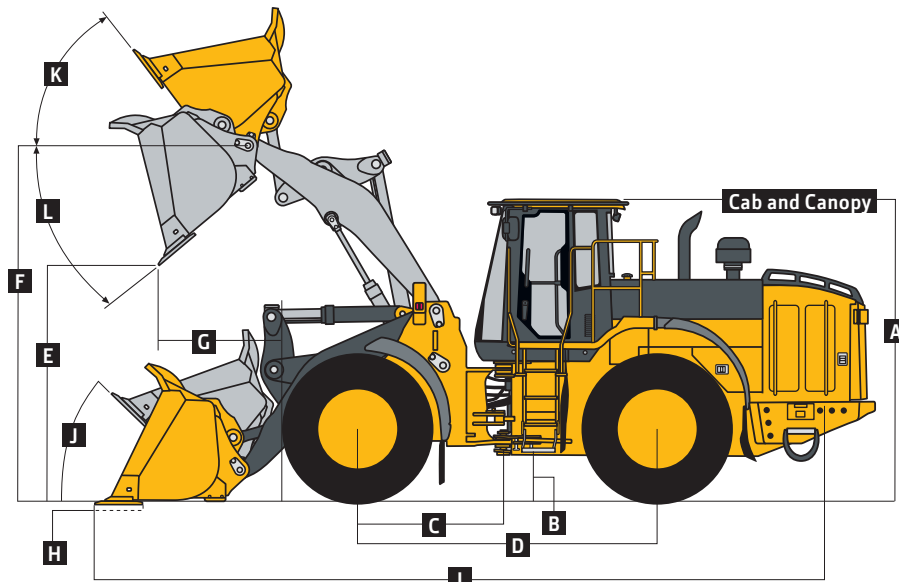
Hydraulic System/Steering

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-m ³ (5.25 cu. yd.) pin-on bucket	4.0-m ³ (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.

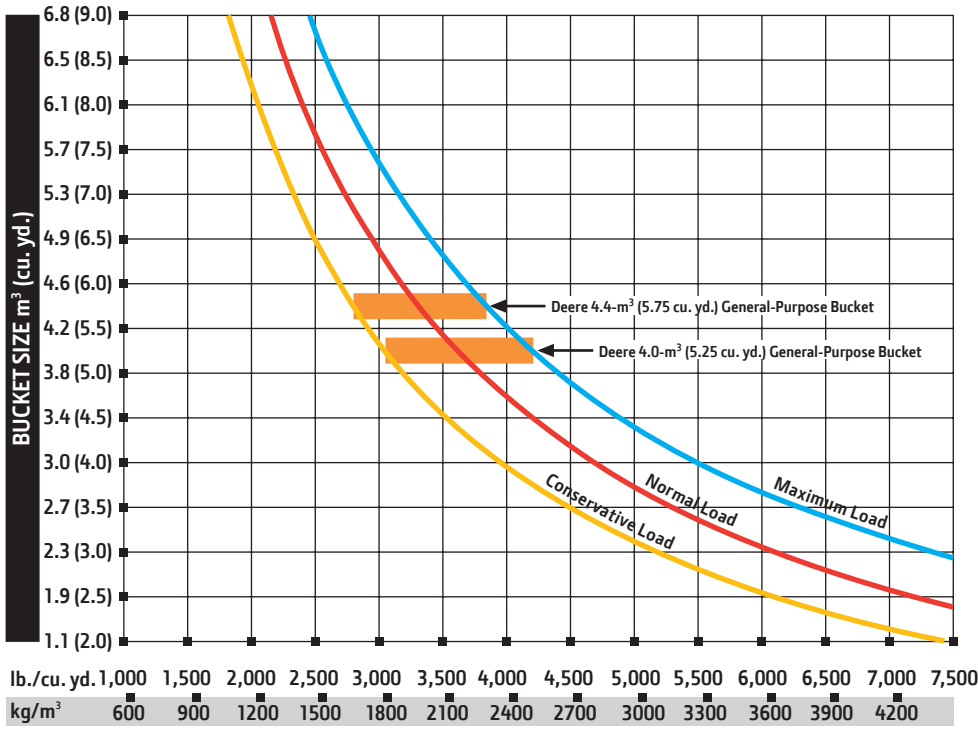
Adjustments to Operating Weights and Tipping Loads with Buckets

Adjustments to operating weights and tipping loads are based on Z-bar machine and pin-on 4.0-m³ (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.

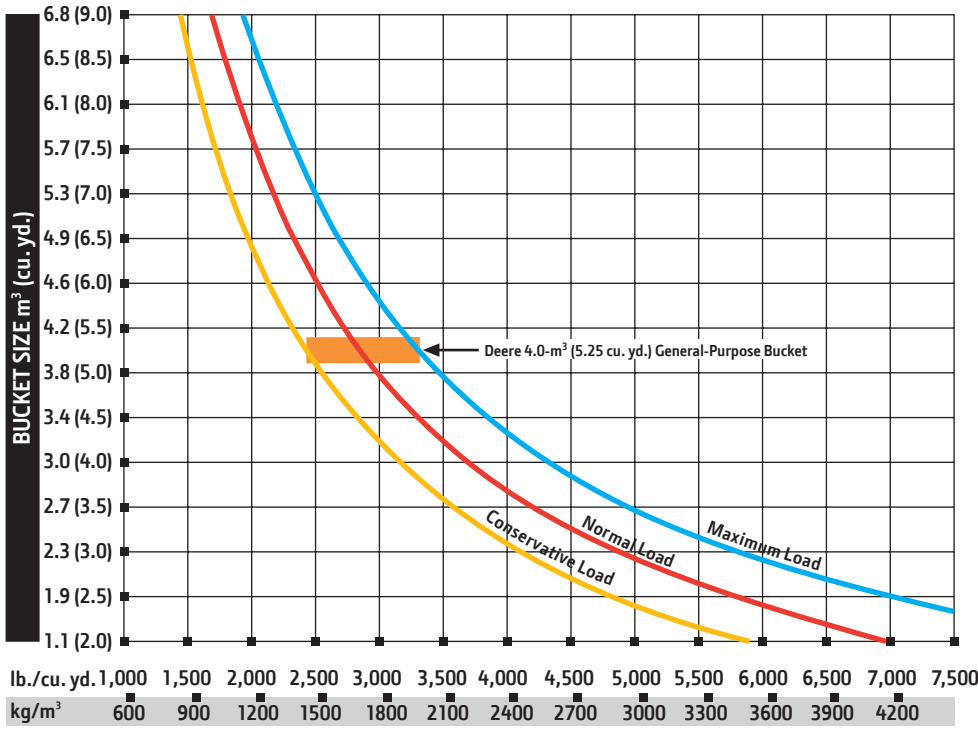
§Requires 8-deg. rear axle stops, close-mounted steps, and no fenders.



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

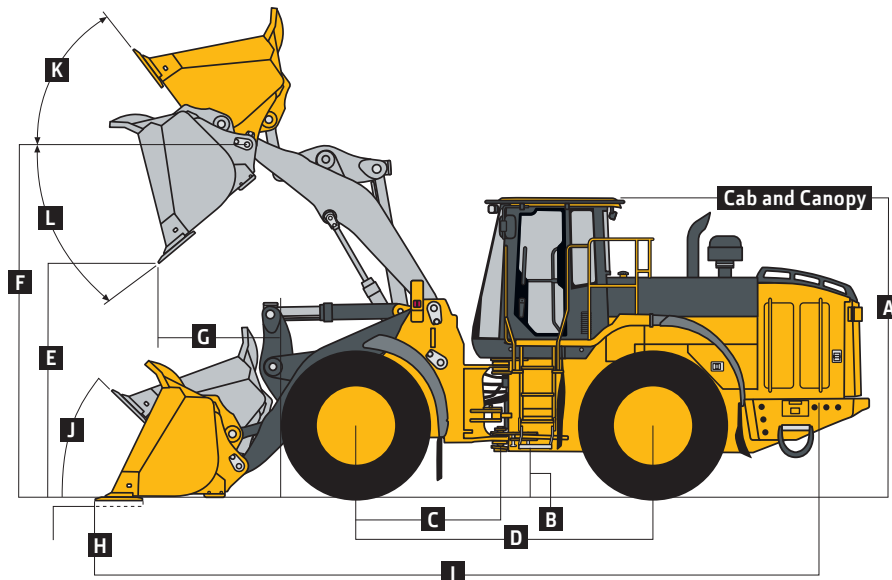
Engine		824K Z-BAR / HIGH-LIFT		
Manufacturer and Model	John Deere PowerTech™ Plus 6135H	John Deere PowerTech™ 6135H		
Non-Road Emissions Standard	EPA Tier 3/EU Stage IIIA	EPA Tier 2/EU Stage II		
Cylinders	6	6		
Valves Per Cylinder	4	4		
Displacement	13.5 L (824 cu. in.)	13.5 L (824 cu. in.)		
Net Peak 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			
	<i>Standard 4-Speed Transmission</i>		<i>5-Speed Transmission with Lockup Torque Converter</i>	
Travel Speeds (with 26.5 R 25, 1 Star L3 tires)	<i>Forward Maximum</i>	<i>Reverse Maximum</i>	<i>Forward Maximum</i>	<i>Reverse Maximum</i>
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*	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>	
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.

[§]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-m ³ (6.0 cu. yd.) pin-on bucket		4.6-m ³ (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	<i>General-Purpose with Bolt-on Edge</i>	<i>Light Material with Bolt-on Edge</i>	<i>General-Purpose with Bolt-on Edge</i>	<i>General-Purpose with Teeth and Segments</i>
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.

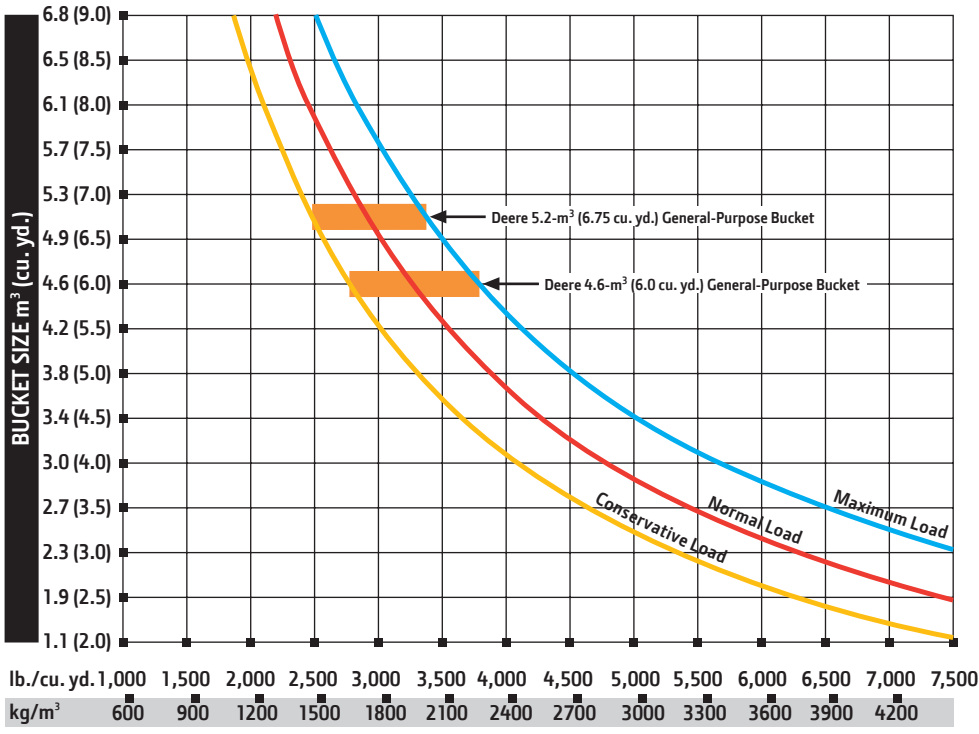
Adjustments to Operating Weights and Tipping Loads with Buckets

Adjustments to operating weights and tipping loads are based on Z-bar machine and pin-on 4.6-m³ (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*

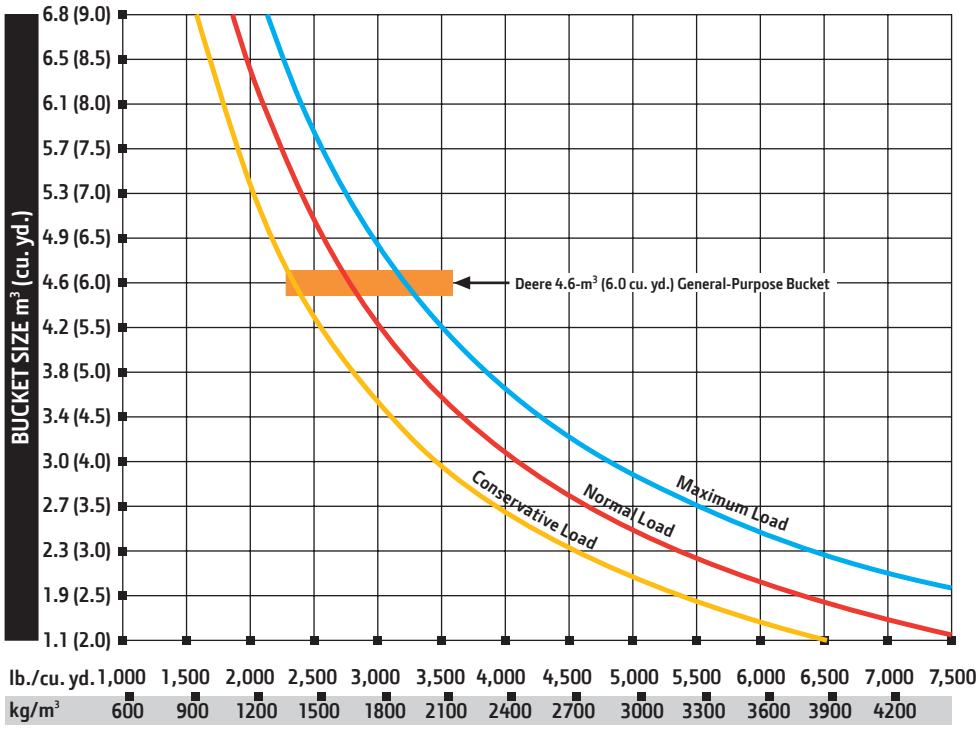
Add (+) or deduct (-) kg (lb.) as indicated for loaders with	Operating Weight	Tipping Loader, Straight	Tipping Load, 37-deg. Full Turn SAE	Tipping Load, 40-deg. Full Turn SAE
John Deere PowerTech Plus 6135H	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)
John Deere PowerTech™ 6135H	- 27 kg (- 60 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



824K HIGH-LIFT LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m ³	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.

LOOSE MATERIALS	kg/m ³	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

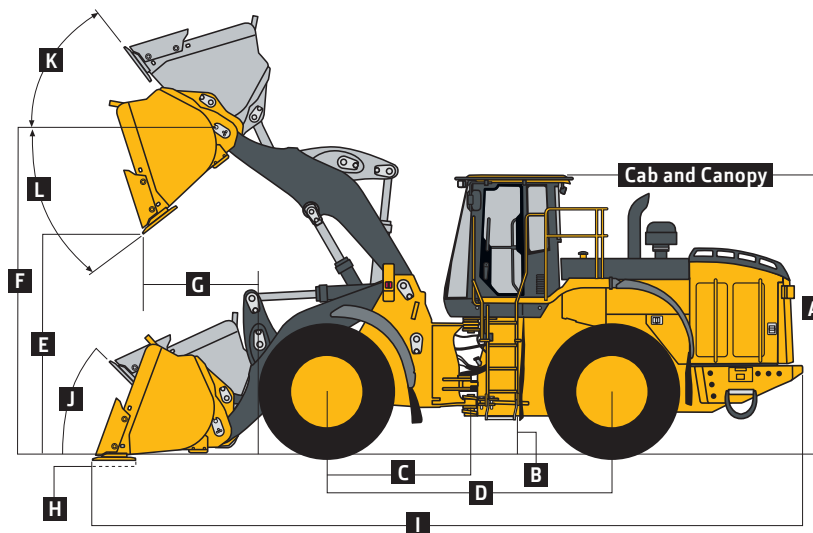
*This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment. 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			
	<i>Standard 4-Speed Transmission</i>		<i>5-Speed Transmission with Lockup Torque Converter</i>	
Travel Speeds (with 29.5 R 25, 1 Star L3 tires)	<i>Forward Maximum</i>	<i>Reverse Maximum</i>	<i>Forward Maximum</i>	<i>Reverse Maximum</i>
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)*	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>	
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 m³ (0.26 cu. yd.) to bucket rating.

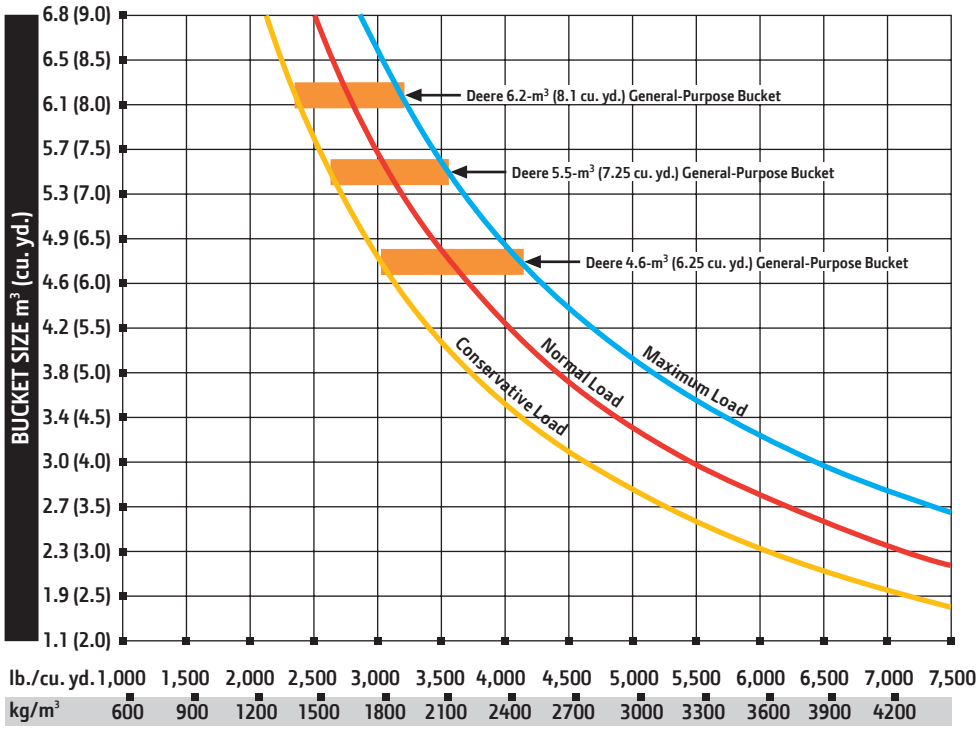
Adjustments to Operating Weights and Tipping Loads with Buckets

Adjustments to operating weights and tipping loads are based on Z-bar machine and pin-on 5.5-m³ (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.



844K Z-BAR LOADER WITH PIN-ON BUCKET

LOOSE MATERIALS	kg/m ³	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
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Limestone, coarse, sized	1570	2,646
Limestone, mixed sizes	1682	2,835
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Sand, dry	1762	2,970
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Slag, furnace granulated	1955	3,294
Stone or gravel, 37.5 to 87.5-mm (1.5 to 3.5") size	1442	2,430
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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
644 724 744 824 844	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
644 724 744 824 844	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
644 724 744 824 844	Hydraulics
● ▲ ▲ ▲	2 function — joystick with F-N-R
● ● ● ● ●	Automatic return to dig
●	In-cab adjustable automatic return to dig (PowerLift™ 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
644 724 744 824 844	Steering Systems
● ● ● ● ●	Conventional steering wheel with spinner knob
▲ ▲ ▲ ▲ ●	Joystick steering (including conventional steering column) with gearshift, F-N-R, and horn
▲ ▲ ▲ ▲ ▲	Secondary steering
644 724 744 824 844	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
644 724 744 824 844	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
644 724 744 824 844	Loader Linkage
● ● ● ● ●	Z-bar loader linkage
▲	PowerLift linkage for visibility and parallel-lift
▲ ▲ ▲ ▲	High-lift Z-bar loader linkage
644 724 744 824 844	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
644 724 744 824 844	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 (PowerLift 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.

