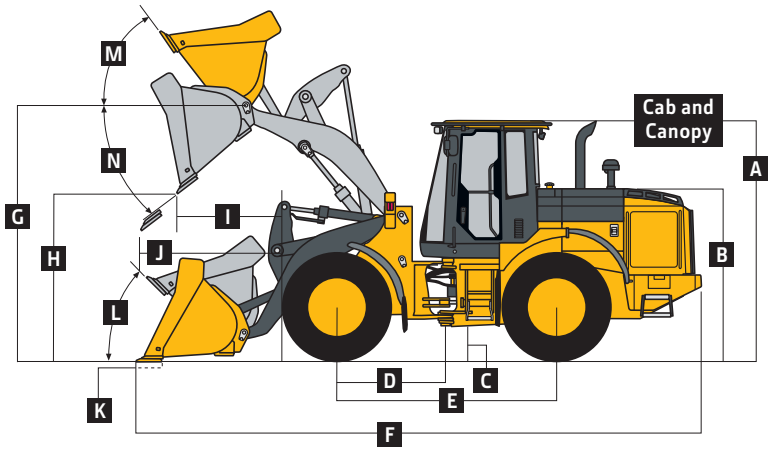
524K

Engine	**524K Z-BAR / HIGH-LIFT**	
Manufacturer and Model	John Deere PowerTech™ PVX 6068	John Deere PowerTech™ E 6068H
Non-Road Emission Standard	EPA Interim Tier 4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA
Cylinders	6	6
Valves Per Cylinder	4	2
Displacement	6.8 L (414 cu. in.)	6.8 L (414 cu. in.)
Net Peak Power (ISO 9249)	105 kW (141 hp) at 1,700 rpm	110 kW (146 hp) at 2,000 rpm
Net Peak Torque (ISO 9249)	623 Nm (459 lb.-ft.) at 1,200 rpm	607 Nm (448 lb.-ft.) at 1,600 rpm
Net Torque Rise	53%	47%
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	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
Electrical System	24 volt with 100-amp (130-amp optional) alternator	24 volt with 80-amp (100-amp optional) alternator
Batteries (2 – 12 volt)	950 CCA (each)	950 CCA (each)
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 3 adjustable clutch-cutoff settings	
Maximum Travel Speeds (with 20.5 R 25 tires)	*Forward*	*Reverse*
Range 1	7.3 km/h (4.5 mph)	7.2 km/h (4.5 mph)
Range 2	12.0 km/h (7.5 mph)	12.6 km/h (7.8 mph)
Range 3	23.0 km/h (14.3 mph)	24.1 km/h (15.0 mph)
Range 4	36.0 km/h (22.4 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 20.5 R 25 tires)	24 deg. (12 deg. each direction)	
Service Brakes (conform to ISO 3450)	Hydraulically actuated, inboard sun-shaft mounted, oil cooled, self-adjusting, single disc	
Parking Brakes (conform to ISO 3450)	Automatic spring applied, hydraulically released, driveline mounted, oil cooled, multi disc	
Tires/Wheels ***(see page 28 for complete tire adjustments)***		
	Tread Width	*Width Over Tires*
Michelin 20.5 R 25, 1 Star L-3	1950 mm (76.8 in.)	2546 mm (100.2 in.)
Serviceability		
Refill Capacities	EPA IT4/EU Stage IIIB	EPA Tier 3/EU Stage IIIA
Fuel Tank (with ground-level fueling)	242 L (64 gal.)	242 L (64 gal.)
Cooling System	26 L (27 qt.)	23 L (24 qt.)
Engine Oil with Vertical Spin-On Filter	19.5 L (20.6 qt.)	19 L (20 qt.)
Transmission Fluid with Vertical Filter	18.5 L (19.5 qt.)	18.5 L (19.5 qt.)
Axle Oil (front and rear, each)	17 L (18 qt.)	17 L (18 qt.)
Hydraulic Reservoir and Filter	122.8 L (32.5 gal.)	92 L (24.3 gal.)
Park Brake Oil (wet disc)	0.3 L (10 oz.)	0.3 L (10 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	165 L/m (44 gpm)	
System Relief Pressure (loader and steering)	24 994 kPa (3,625 psi)	
Loader Controls	2-function valve; joystick control or fingertip controls; hydraulic-function enable/disable; optional 3rd- and 4th-function valve with auxiliary lever	
Steering (conforms to ISO 5010)		
Type	Power, fully hydraulic	
Articulation Angle	80-deg. arc (40 deg. each direction)	
Turning Radius (measured to centerline of outside tire)	5.0 m (16 ft. 5 in.)	

Hydraulic System/Steering *(continued)*	524K Z-BAR / HIGH-LIFT	
Hydraulic Cycle Times	*Z-Bar*	*High-Lift*
Raise	6.1 sec.	6.1 sec.
Dump	1.4 sec.	1.4 sec.
Lower (float down)	3.0 sec.	3.0 sec.
Total	10.5 sec.	10.5 sec.

Dimensions and Specifications with Pin-On Bucket

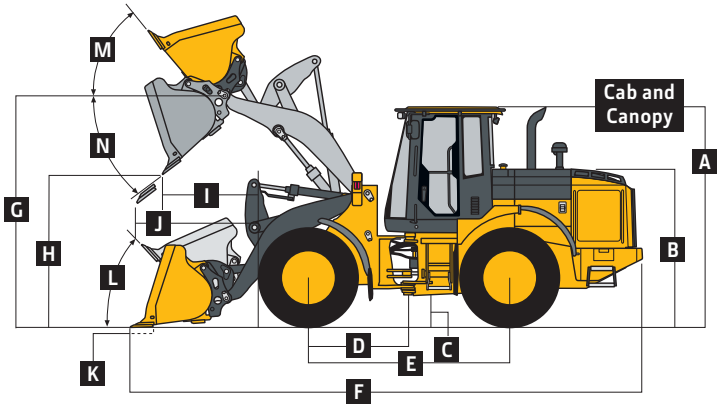


524K Z-BAR AND HIGH-LIFT LOADERS WITH PIN-ON BUCKET

	Z-Bar	*High-Lift*
Dimensions with Bucket	*2.1-m³ (2.75 cu. yd.) general-purpose with bolt-on edge*	*2.1-m³ (2.75 cu. yd.) general-purpose with bolt-on edge*
A Height to Top of Cab and Canopy	3.25 m (10 ft. 8 in.)	3.25 m (10 ft. 8 in.)
B Hood Height	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)
C Ground Clearance	400 mm (15.7 in.)	400 mm (15.7 in.)
D Length from Centerline to Front Axle	1.45 m (4 ft. 9 in.)	1.45 m (4 ft. 9 in.)
E Wheelbase	2.93 m (9 ft. 7 in.)	2.93 m (9 ft. 7 in.)
F Overall Length, Bucket on Ground	7.34 m (24 ft. 1 in.)	7.67 m (25 ft. 2 in.)
G Height to Hinge Pin, Fully Raised	3.77 m (12 ft. 5 in.)	4.12 m (13 ft. 6 in.)
H Dump Clearance, 45 deg., Full Height	2.77 m (9 ft. 1 in.)	3.12 m (10 ft. 3 in.)
I Reach, 45-deg. Dump, Full Height	0.98 m (3 ft. 2 in.)	0.99 m (3 ft. 3 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	1.44 m (4 ft. 9 in.)	1.73 m (5 ft. 8 in.)
K Maximum Digging Depth	97 mm (3.8 in.)	222 mm (8.7 in.)
L Maximum Rollback at Ground Level	41 deg.	41 deg.
M Maximum Rollback, Boom Fully Raised	55 deg.	50 deg.
N Maximum Bucket Dump Angle, Fully Raised	51 deg.	47 deg.
Loader Clearance Circle, Bucket Carry Position	11.60 m (38 ft. 1 in.)	11.90 m (39 ft. 1 in.)
Specifications with Bucket		
Capacity, Heaped	2.1 m³ (2.75 cu. yd.)	2.1 m³ (2.75 cu. yd.)
Capacity, Struck	1.7 m³ (2.27 cu. yd.)	1.7 m³ (2.27 cu. yd.)
Bucket Weight with Bolt-On Cutting Edge	991 kg (2,185 lb.)	991 kg (2,185 lb.)
Bucket Width	2.54 m (8 ft. 4 in.)	2.54 m (8 ft. 4 in.)
Breakout Force	9193 kg (20,267 lb.)	8504 kg (18,748 lb.)
Tipping Load, Straight	10 255 kg (22,609 lb.)	8803 kg (19,406 lb.)
Tipping Load, 40-deg. Full Turn	8914 kg (19,652 lb.)	7622 kg (16,804 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load (conforms to ISO 14397-1)*	4457 kg (9,826 lb.)	3811 kg (8,402 lb.)
Operating Weight	12 449 kg (27,445 lb.)	12 642 kg (27,871 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PVX 6068 (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.

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



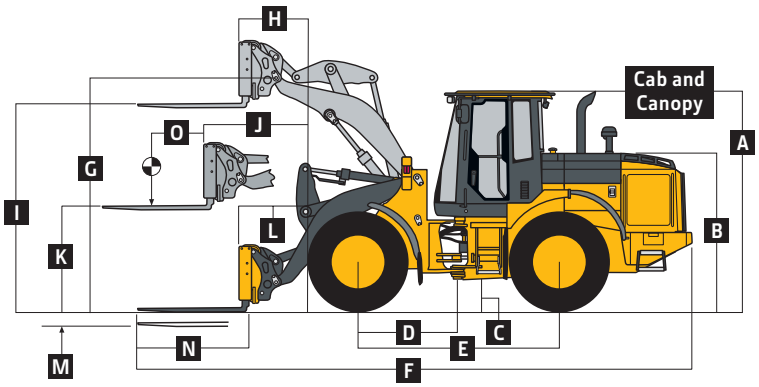
524K Z-BAR AND HIGH-LIFT LOADERS WITH QUICK-COUPLER AND HOOK-ON BUCKET

	Z-Bar	*Z-Bar*	*High-Lift*	*High-Lift*
Dimensions with Bucket	*1.9-m³ (2.5 cu. yd.) general-purpose with bolt-on edge*	*2.1-m³ (2.75 cu. yd.) general-purpose with bolt-on edge*	*1.9-m³ (2.5 cu. yd.) general-purpose with bolt-on edge*	*2.1-m³ (2.75 cu. yd.) general-purpose with bolt-on edge*
A Height to Top of Cab and Canopy	3.25 m (10 ft. 8 in.)	3.25 m (10 ft. 8 in.)	3.25 m (10 ft. 8 in.)	3.25 m (10 ft. 8 in.)
B Hood Height	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)
C Ground Clearance	400 mm (15.7 in.)	400 mm (15.7 in.)	400 mm (15.7 in.)	400 mm (15.7 in.)
D Length from Centerline to Front Axle	1.45 m (4 ft. 9 in.)	1.45 m (4 ft. 9 in.)	1.45 m (4 ft. 9 in.)	1.45 m (4 ft. 9 in.)
E Wheelbase	2.93 m (9 ft. 7 in.)	2.93 m (9 ft. 7 in.)	2.93 m (9 ft. 7 in.)	2.93 m (9 ft. 7 in.)
F Overall Length, Bucket on Ground	7.48 m (24 ft. 6 in.)	7.57 m (24 ft. 10 in.)	7.80 m (25 ft. 7 in.)	7.90 m (25 ft. 11 in.)
G Height to Hinge Pin, Fully Raised	3.77 m (12 ft. 5 in.)	3.77 m (12 ft. 5 in.)	4.12 m (13 ft. 6 in.)	4.12 m (13 ft. 6 in.)
H Dump Clearance, 45 deg., Full Height	2.67 m (8 ft. 9 in.)	2.61 m (8 ft. 7 in.)	3.02 m (9 ft. 11 in.)	2.96 m (9 ft. 8 in.)
I Reach, 45-deg. Dump, Full Height	1.03 m (3 ft. 5 in.)	1.10 m (3 ft. 7 in.)	1.05 m (3 ft. 5 in.)	1.11 m (3 ft. 8 in.)
J Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance	1.44 m (4 ft. 9 in.)	1.47 m (4 ft. 10 in.)	1.74 m (5 ft. 8 in.)	1.77 m (5 ft. 10 in.)
K Maximum Digging Depth	146 mm (5.7 in.)	146 mm (5.7 in.)	226 mm (10.3 in.)	226 mm (10.3 in.)
L Maximum Rollback at Ground Level	40 deg.	40 deg.	45 deg.	45 deg.
M Maximum Rollback, Boom Fully Raised	54 deg.	54 deg.	48 deg.	48 deg.
N Maximum Bucket Dump Angle, Fully Raised	48 deg.	48 deg.	48 deg.	48 deg.
Loader Clearance Circle, Bucket Carry Position	11.72 m (38 ft. 6 in.)	11.77 m (38 ft. 7 in.)	12.01 m (39 ft. 5 in.)	12.08 m (39 ft. 8 in.)
Specifications with Bucket				
Capacity, Heaped	1.9 m³ (2.5 cu. yd.)	2.1 m³ (2.75 cu. yd.)	1.9 m³ (2.5 cu. yd.)	2.1 m³ (2.75 cu. yd.)
Capacity, Struck	1.6 m³ (2.1 cu. yd.)	1.7 m³ (2.27 cu. yd.)	1.6 m³ (2.1 cu. yd.)	1.7 m³ (2.27 cu. yd.)
Bucket Weight with Bolt-On Cutting Edge	1294 kg (2,853 lb.)	1369 kg (3,018 lb.)	1302 kg (2,871 lb.)	1377 kg (3,037 lb.)
Bucket Width	2.54 m (8 ft. 4 in.)	2.54 m (8 ft. 4 in.)	2.54 m (8 ft. 4 in.)	2.54 m (8 ft. 4 in.)
Breakout Force	8182 kg (18,038 lb.)	7567 kg (16,682 lb.)	7552 kg (16,649 lb.)	6984 kg (15,397 lb.)
Tipping Load, Straight	9177 kg (20,232 lb.)	9027 kg (19,902 lb.)	7902 kg (17,420 lb.)	7760 kg (17,108 lb.)
Tipping Load, 40-deg. Full Turn	7936 kg (17,495 lb.)	7795 kg (17,185 lb.)	6800 kg (14,991 lb.)	6666 kg (14,697 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load (conforms to ISO 14397-1)*	3968 kg (8,748 lb.)	3898 kg (8,593 lb.)	3400 kg (7,496 lb.)	3333 kg (7,348 lb.)
Operating Weight	12 771 kg (28,156 lb.)	12 848 kg (28,326 lb.)	12 964 kg (28,581 lb.)	13 042 kg (28,752 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PVX 6068 (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.

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

Dimensions and Specifications with Hi-Vis Coupler and Construction Forks — 524K Z-BAR / HIGH-LIFT



524K Z-BAR AND HIGH-LIFT LOADERS WITH QUICK-COUPLER AND HOOK-ON CONSTRUCTION FORKS

	Z-Bar	*Z-Bar*	*High-Lift*	*High-Lift*
Dimensions with Forks	*1.22-m (48 in.) tine length*	*1.52-m (60 in.) tine length*	*1.22-m (48 in.) tine length*	*1.52-m (60 in.) tine length*
A Height to Top of Cab and Canopy	3.25 m (10 ft. 8 in.)	3.25 m (10 ft. 8 in.)	3.25 m (10 ft. 8 in.)	3.25 m (10 ft. 8 in.)
B Hood Height	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)	2.30 m (7 ft. 7 in.)
C Ground Clearance	400 mm (15.7 in.)	400 mm (15.7 in.)	400 mm (15.7 in.)	400 mm (15.7 in.)
D Length from Centerline to Front Axle	1.45 m (4 ft. 9 in.)	1.45 m (4 ft. 9 in.)	1.45 m (4 ft. 9 in.)	1.45 m (4 ft. 9 in.)
E Wheelbase	2.93 m (9 ft. 7 in.)	2.93 m (9 ft. 7 in.)	2.93 m (9 ft. 7 in.)	2.93 m (9 ft. 7 in.)
F Overall Length, Forks on Ground	7.88 m (25 ft. 10 in.)	8.18 m (26 ft. 10 in.)	8.21 m (26 ft. 11 in.)	8.51 m (27 ft. 11 in.)
G Height to Hinge Pin, Fully Raised	3.77 m (12 ft. 5 in.)	3.77 m (12 ft. 5 in.)	4.12 m (13 ft. 6 in.)	4.12 m (13 ft. 6 in.)
H Reach, Fully Raised	0.80 m (31.3 in.)	0.80 m (31.3 in.)	0.81 m (31.9 in.)	0.81 m (31.9 in.)
I Fork Height, Fully Raised	3.55 m (11 ft. 8 in.)	3.55 m (11 ft. 8 in.)	3.90 m (12 ft. 9 in.)	3.90 m (12 ft. 9 in.)
J Maximum Reach, Fork Level	1.54 m (5 ft. 1 in.)	1.54 m (5 ft. 1 in.)	1.80 m (5 ft. 11 in.)	1.80 m (5 ft. 11 in.)
K Fork Height, Maximum Reach	1.72 m (5 ft. 8 in.)	1.72 m (5 ft. 8 in.)	1.72 m (5 ft. 8 in.)	1.72 m (5 ft. 8 in.)
L Reach, Ground Level	0.94 m (3 ft. 1 in.)	0.94 m (3 ft. 1 in.)	1.27 m (4 ft. 2 in.)	1.27 m (4 ft. 2 in.)
M Depth Below Ground	16 mm (0.6 in.)	16 mm (0.6 in.)	95 mm (3.7 in.)	95 mm (3.7 in.)
N Tine Length	1.22 m (48 in.)	1.52 m (60 in.)	1.22 m (48 in.)	1.52 m (60 in.)
O Load Position, 50% Tine Length	0.61 m (24 in.)	0.76 m (30 in.)	0.61 m (24 in.)	0.76 m (30 in.)
Specifications with Forks				
Tipping Load, Straight	7126 kg (15,709 lb.)	6723 kg (14,822 lb.)	6654 kg (14,669 lb.)	6602 kg (14,554 lb.)
Tipping Load, 40-deg. Turn	6192 kg (13,651 lb.)	5836 kg (12,867 lb.)	5757 kg (12,692 lb.)	5705 kg (12,578 lb.)
Rated Operating Load, 50% Full-Turn Tipping Load (conforms to ISO 14397-1 and SAE J1197)*	3096 kg (6,826 lb.)	2918 kg (6,433 lb.)	2879 kg (6,346 lb.)	2853 kg (6,289 lb.)
Rated Operating Load, Rough Terrain, 60% Full-Turn Tipping Load (conforms to EN474-3)*	3715 kg (8,191 lb.)	3502 kg (7,720 lb.)	3454 kg (7,615 lb.)	3423 kg (7,546 lb.)
Rated Operating Load, Firm and Level Ground, 80% Full-Turn Tipping Load (conforms to EN474-3)*	4954 kg (10,921 lb.)	4669 kg (10,293 lb.)	4606 kg (10,154 lb.)	4564 kg (10,062 lb.)
Operating Weight	12 511 kg (27,581 lb.)	12 554 kg (27,676 lb.)	12 675 kg (27,943 lb.)	12 718 kg (28,038 lb.)

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PVX 6068 (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.

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

Adjustments to Operating Weights and Tipping Loads with Buckets — 524K Z-BAR / HIGH-LIFT

Adjustments to operating weights, tipping loads, and tires are based on Z-bar machine with pin-on 2.1-m³ (2.75 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	*Operating Weight*	*Tipping Load, Straight*	*Tipping Load, 40-deg. Full Turn SAE*	*Tread Width*	*Width Over Tires*	*Vertical Height*
John Deere PowerTech PVX 6068	0 kg (0 lb.)	0 kg (0 lb.)	0 kg (0 lb.)	N/A	N/A	N/A
John Deere PowerTech E 6068H	–19 kg (–42 lb.)	+48 kg (+106 lb.)	+34 kg (+75 lb.)	N/A	N/A	N/A
Michelin 20.5 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.)
Bridgestone 20.5 R 25, 1 Star L-3	+44 kg (+97 lb.)	+28 kg (+61 lb.)	+24 kg (+54 lb.)	0 mm (0 in.)	–5 mm (–0.2 in.)	–5 mm (–0.2 in.)
Titan 20.5 R 25, 1 Star L-3	–4 kg (–9 lb.)	– 3 kg (–6 lb.)	–2 kg (–5 lb.)	0 mm (0 in.)	–5 mm (–0.2 in.)	–5 mm (–0.2 in.)
Michelin 20.5 R 25, 1 Star L-2	–172 kg (–379 lb.)	–109 kg (–239 lb.)	–96 kg (–211 lb.)	0 mm (0 in.)	–5 mm (–0.2 in.)	–5 mm (–0.2 in.)
Bridgestone 20.5 R 25, 1 Star L-2	–80 kg (–176 lb.)	–50 kg (–111 lb.)	–45 kg (–98 lb.)	0 mm (0 in.)	–5 mm (–0.2 in.)	–5 mm (–0.2 in.)
Titan 20.5 R 25, 1 Star L-2	–100 kg (–220 lb.)	–63 kg (–139 lb.)	–56 kg (–123 lb.)	0 mm (0 in.)	–5 mm (–0.2 in.)	–5 mm (–0.2 in.)
Titan 20.5-25, 16 PR L-2	–260 kg (–573 lb.)	–164 kg (–362 lb.)	–145 kg (–319 lb.)	0 mm (0 in.)	–2 mm (–0.1 in.)	+3 mm (+0.1 in.)
Firestone 20.5-25, 16 PR L-2	–280 kg (–617 lb.)	–177 kg (–390 lb.)	–156 kg (–344 lb.)	0 mm (0 in.)	–2 mm (–0.1 in.)	+3 mm (+0.1 in.)
Firestone 20.5-25, 12 PR L-2	–316 kg (–697 lb.)	–199 kg (–440 lb.)	–176 kg (–388 lb.)	0 mm (0 in.)	–2 mm (–0.1 in.)	+3 mm (+0.1 in.)
Titan 20.5 R 25, 12 PR L-2	–280 kg (–617 lb.)	–177 kg (–390 lb.)	–156 kg (–344 lb.)	0 mm (0 in.)	–2 mm (–0.1 in.)	+3 mm (+0.1 in.)
Firestone 20.5-25, 16 PR L-3	–252 kg (–556 lb.)	–184 kg (–405 lb.)	–162 kg (–357 lb.)	0 mm (0 in.)	–2 mm (–0.1 in.)	+9 mm (+0.4 in.)
725/70-25 16-Ply L-4T (Logger Style)†§	+460 kg (+1,014 lb.)	+336 kg (+740 lb.)	+296 kg (+652 lb.)	+100 mm (+3.9 in.)	+256 mm (+10.1 in.)	+109 mm (+4.3 in.)
Michelin 600/65 R 25, 1 Star L-3§§	+4 kg (+9 lb.)	+3 kg (+6 lb.)	+2 kg (+5 lb.)	0 mm (0 in.)	+87 mm (+3.4 in.)	–22 mm (–0.9 in.)
$CaCl_2$ in 20.5-25, L-3 Rear Tires, 75% Fill	+825 kg (+1,820 lb.)	+1010 kg (+2,227 lb.)	+891 kg (+1,964 lb.)	N/A	N/A	N/A

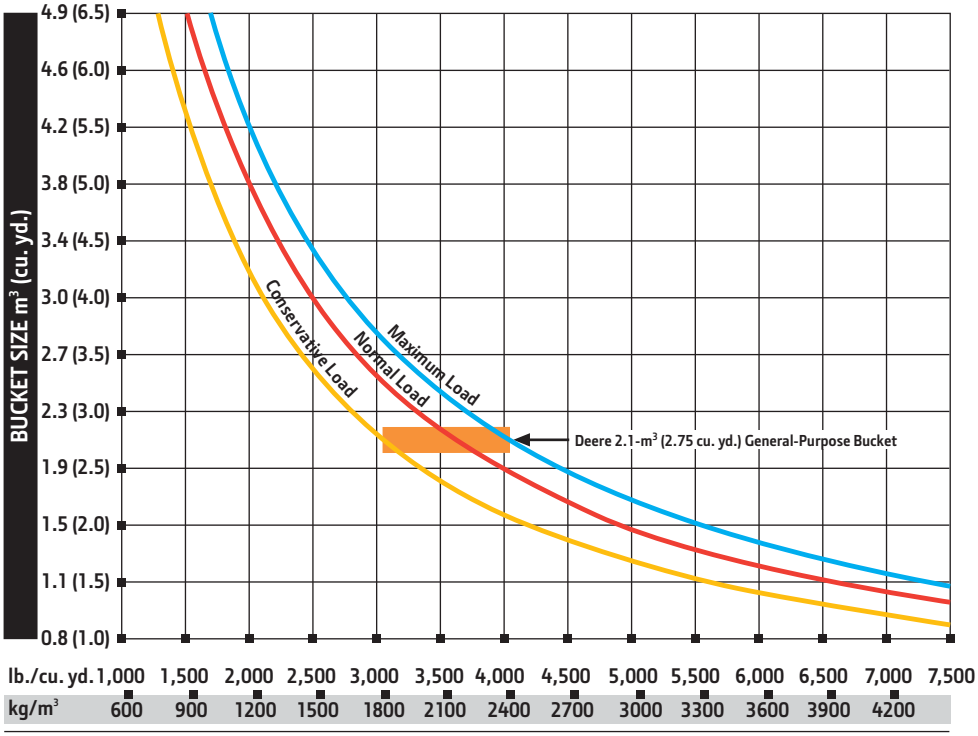
**May change based on vehicle configuration, weight, or tire-pressure adjustments.*

†*Equipped with 5-piece heavy-duty rims.*

§*Requires 8-deg. rear axle stops.*

§§*$CaCl_2$ not recommended.*

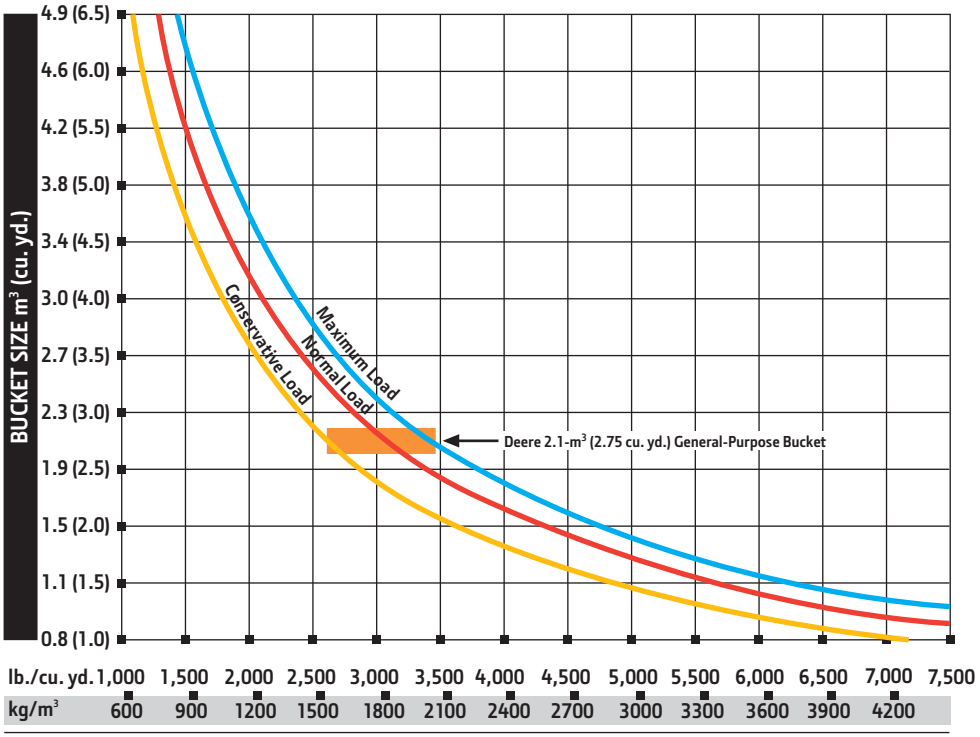
Bucket Selection Guides* — 524K Z-BAR



524K 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.



524K 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.