

# 644

# X



*WHEEL LOADER*



**JOHN DEERE**

# ON THE CUTTING EDGE.

The multipurpose 644 X-Tier Wheel Loader is designed and purpose built to take it on and go beyond. With its combined innovative E-Drive and PowerShift™ transmission system that delivers strong pushing power and fast ramp-climbing ability, tasks ranging from loading trucks to maintaining stockpiles to heaping hoppers can be accomplished with efficiency and ease. And this impressive iron runs quiet, too. The 644 X tier is packed to the max with the state-of-the-art technology and innovative features that can help take your operation to new heights of productivity and performance.

## **Power without compromise**

Choose between variable and constant engine speeds in normal and performance modes. Drivetrain and hydraulic functions are powerful, responsive, and quick, to deliver exceptional productivity in the most demanding applications.

## **E-Drive innovation**

Innovative E-Drive transmission system delivers premium performance and efficiency. System includes an engine-driven generator plus an inverter to control the electric motor that drives a simplified PowerShift transmission.

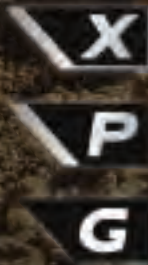
## **Move more with less**

Efficiency is outstanding, with up to 18-percent more tons moved per gallon of fuel burned than top competitors.\*

\*As measured in a closed-circuit test conducted in September 2020 against similarly equipped top competitors. All machines were operated at maximum productivity in controlled conditions.



**FIND YOUR FIT**



- LEADING EDGE**  
*Premium edge with innovative technology*
- EXCEPTIONAL PERFORMANCE**  
*Advanced features and performance*
- RUGGED AND RELIABLE**  
*Proven capabilities and value*

**Smooth operator**

Purpose built PowerShift transmission provides smooth control through four forward speed ranges. Direction changes are accomplished by the electric motor, completely eliminating shifting in some truck-loading applications.

**The bucket list**

A wide-ranging selection of enhanced production buckets with integrated spill guards, curved side cutters, and impressive rollback maximizes bucket fill performance and material retention. Choose from hi-vis and style couplers to maximize versatility and machine utilization.

**Make a good impression**

Running wide open at 2,000 rpm, the in-cab noise rating is just 68 dBA. Reduced exterior noise makes the 644 X tier a great choice when working in residential areas.

### Field proven

John Deere E-Drive technology in our 644 and 944 Wheel Loaders has collectively logged over two million field hours – a testament to the durability and performance of our transmission components and systems.

### The coast is clear

Coast-control feature slows the loader down without the operator having to touch a pedal, helping extend service-brake wear life.

### Time to take sides

All daily service points including fuel are conveniently grouped on the left side of the machine at ground level, for easy access. Hinged doors enable wide-open access to the engine, cooling system, and other components.

### Creature comforts

Spacious cab boasts ample legroom and features ergonomically placed controls, foot pedals, and sealed-switch module. Seat-mounted hydraulic controls include two programmable multifunction buttons and intuitive electro-hydraulic (EH) controls.

### Integrated controls

With the capacity to control up to six functions on the single hydraulic joystick, cycle times and productivity when using hydraulic attachments are improved.





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POWERFUL INNOVATIVE

## 644 X-TIER WHEEL LOADER



### Remote diagnostics and support

To maximize uptime and lower costs, JDLink™ telematics provides machine location, utilization data, and alerts to help you maximize productivity and efficiency. JDLink also enables John Deere Connected Support. Dealers use Expert Alerts based on data from thousands of connected machines to proactively address conditions that may otherwise likely lead to downtime. Your dealer can also monitor machine health and leverage remote diagnostics and programming capability to further diagnose problems and even update machine software without a time-consuming trip to the jobsite.

Availability varies by region. Options not available in every country.



While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories NOT AVAILABLE in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

| <b>Engine</b>  |   | <b>644 X-TIER Z-BAR / HIGH-LIFT</b>         |   |
|--|---|---|---|
| Manufacturer and Model   | John Deere PowerTech™ PSS 6068  | Net Peak Torque (ISO 9249)                  | 1095 Nm (808 lb.-ft.) at 1,500 rpm  |
| Non-Road Emission Standard   | EPA Final Tier 4/EU Stage V   | Net Torque Rise                             | 36%   |
| Cylinders  | 6   | Fuel System (electronically controlled)     | High-pressure common rail   |
| Valves Per Cylinder  | 4   | Lubrication                                 | Full flow spin on filter and integral cooler  |
| Displacement   | 6.8 L (415 cu. in.)   | Aspiration                                  | Turbocharged, charge air cooled   |
| Net Peak Power (ISO 9249)  | 172 kW (231 hp) at 1,500 rpm  | Air Cleaner                                 | Under-hood, dual-element dry type, restriction indicator in cab monitor for service |
| Gross Peak Power (ISO 9249)  | 178 kW (238 hp) at 1,500 rpm  |   |   |
| <b>Cooling</b>   |   |   |   |
| Fan Drive  | Hydraulically driven, proportionally controlled, fan aft of coolers   |   |   |
| <b>Electrical</b>  |   |   |   |
| Electrical System  | 24 volt with 140-amp alternator   |   |   |
| Batteries (2 – 12 volt)  | 950 CCA (each)  |   |   |
| <b>Transmission System</b>   |   |   |   |
| Type   | Countershaft-type PowerShift™   |   |   |
| Motor/Generator  | Brushless A/C   |   |   |
| Inverter   | Solid-state power   |   |   |
| 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<br><i>Standard 3-Speed Hybrid-Electric Drive (E-Drive)</i> |   |   |
| Maximum Travel Speeds<br>(with 23.5 R 25 tires)                          | <i>Forward</i>  | <i>Reverse</i>                              |   |
| Range 1  | 7.5 km/h (4.5 mph)  | 7.5 km/h (4.5 mph)                          |   |
| Range 2  | 14.0 km/h (8.7 mph)   | 14.0 km/h (8.7 mph)                         |   |
| Range 3  | 25.0 km/h (15.5 mph)  | 25.0 km/h (15.5 mph)                        |   |
| Range 4  | 40.0 km/h (24.9 mph)  | 40.0 km/h (24.9 mph)                        |   |
| <b>Axles/Brakes</b>  |   |   |   |
| 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<br>(with 23.5 R 25 tires)            | 26 deg. (13 deg. each direction)  |   |   |
| Brakes (conform to ISO 3450)   |   |   |   |
| Service  | Hydraulically actuated, inboard sun-shaft mounted, oil cooled, self adjusting, single disc  |   |   |
| Parking  | Automatic spring applied, hydraulically released, transmission integrated, oil cooled, multi disc   |   |   |
| <b>Tires/Wheels</b><br><i>(see page 9 for complete tire adjustments)</i> |   |   |   |
|  | <i>Tread Width</i>  | <i>Width Over Tires</i>                     |   |
| Michelin 23.5 R 25, 1 Star L-3   | 2170 mm (85.4 in.)  | 2875 mm (113.2 in.)                         |   |
| <b>Serviceability</b>  |   |   |   |
| <b>Refill Capacities</b>   |   | <b>Refill Capacities (continued)</b>        |   |
| Fuel Tank (with lockable cap)  | 350 L (92.6 gal.)   | Engine Oil With Vertical Spin-On Filter     | 27 L (28.5 qt.)   |
| Diesel Exhaust Fluid (DEF)   | 18.5 L (19.5 qt.)   | Transmission Reservoir With Vertical Filter | 32 L (34 qt.)   |
| Cooling System   | 63 L (67 qt.)   | Axle Oil (front and rear, each)             | 22 L (23 qt.)   |
| Inverter   | 5.7 L (6.0 qt.)   | Hydraulic Reservoir and Filter              | 103.4 L (27.3 gal.)   |
| <b>Hydraulic System/Steering</b>   |   |   |   |
| Pump (loader and steering)   | Variable-displacement, axial-piston pump; closed-center, pressure-compensating system   |   |   |
| Maximum Rated Flow at 6895 kPa<br>(1,000 psi) and 1,939 rpm              | 265 L/m (70 gpm)  |   |   |
| System Relief Pressure (loader and steering)                             | 25 166 kPa (3,650 psi)  |   |   |
| Loader Controls  | function valve joystick control or fingertip controls hydraulic function enable/disable optional 1 <sup>st</sup> and 2 <sup>nd</sup> 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)                  | 5.64 m (18 ft. 6 in.)   |   |   |

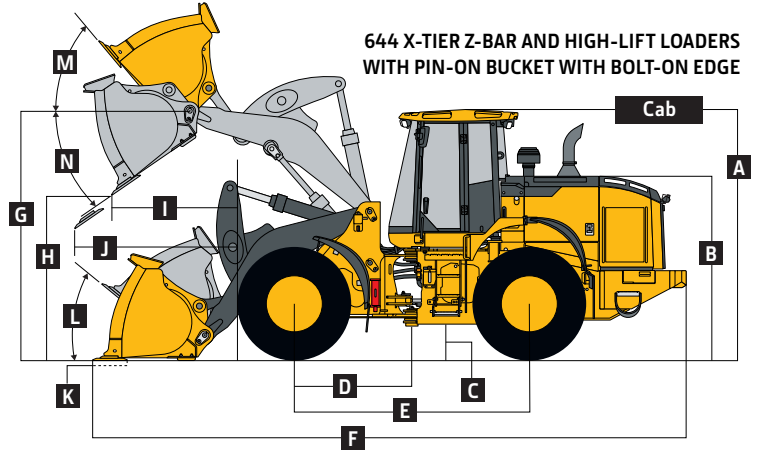
## 644 X-TIER WHEEL LOADER SPECIFICATIONS

# 644

# X

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| Hydraulic System/Steering (continued) |  |           |
|---------------------------------------|--|-----------|
| Hydraulic Cycle Times                 | Z-Bar                                      | High-Lift |
| Raise                                 | 6.2 sec.                                   | 6.2 sec.  |
| Dump                                  | 1.7 sec.                                   | 1.7 sec.  |
| Lower (power down)                    | 3.8 sec.                                   | 4.0 sec.  |
| Total                                 | 11.7 sec.                                  | 11.9 sec. |
| Bucket Capacity                       |  |           |
| Bucket Type                           |  |           |
| Pin-On                                | 3.2–3.6 m <sup>3</sup> (4.25–4.75 cu. yd.) |           |
| Coupler                               | 3.1–3.6 m <sup>3</sup> (4.0–4.75 cu. yd.)  |           |



644 X-TIER Z-BAR AND HIGH-LIFT LOADERS WITH PIN-ON BUCKET WITH BOLT-ON EDGE

|   | Z-Bar   | Z-Bar  | High-Lift   |
|---|---|--|---|
| <b>Dimensions With Bucket With Bolt-On Edge (illustration above right)</b>                        |   |  |   |
|   | 3.2-m <sup>3</sup> (4.25 cu. yd.) general-purpose | 3.4-m <sup>3</sup> (4.5 cu. yd.) general-purpose | 3.2-m <sup>3</sup> (4.25 cu. yd.) general-purpose |
| <b>A</b> Height to Top of Cab   | 3.45 m (11 ft. 4 in.)                             | 3.45 m (11 ft. 4 in.)                            | 3.45 m (11 ft. 4 in.)                             |
| <b>B</b> Hood Height  | 2.51 m (8 ft. 3 in.)                              | 2.51 m (8 ft. 3 in.)                             | 2.51 m (8 ft. 3 in.)                              |
| <b>C</b> Ground Clearance   | 386 mm (15.2 in.)                                 | 386 mm (15.2 in.)                                | 386 mm (15.2 in.)                                 |
| <b>D</b> Length From Centerline to Front Axle   | 1.66 m (5 ft. 5 in.)                              | 1.66 m (5 ft. 5 in.)                             | 1.66 m (5 ft. 5 in.)                              |
| <b>E</b> Wheelbase  | 3.31 m (10 ft. 10 in.)                            | 3.31 m (10 ft. 10 in.)                           | 3.31 m (10 ft. 10 in.)                            |
| <b>F</b> Overall Length, Bucket on Ground   | 8.26 m (27 ft. 1 in.)                             | 8.31 m (27 ft. 3 in.)                            | 8.72 m (28 ft. 7 in.)                             |
| <b>G</b> Height to Hinge Pin, Fully Raised  | 4.09 m (13 ft. 5 in.)                             | 4.09 m (13 ft. 5 in.)                            | 4.50 m (14 ft. 9 in.)                             |
| <b>H</b> Dump Clearance, 45 deg., Full Height   | 2.87 m (9 ft. 5 in.)                              | 2.83 m (9 ft. 4 in.)                             | 3.28 m (10 ft. 9 in.)                             |
| <b>I</b> Reach, 45-deg. Dump, Full Height   | 1.06 m (3 ft. 6 in.)                              | 1.09 m (3 ft. 7 in.)                             | 1.17 m (3 ft. 10 in.)                             |
| <b>J</b> Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance                                      | 1.61 m (5 ft. 3 in.)                              | 1.62 m (5 ft. 4 in.)                             | 2.02 m (6 ft. 8 in.)                              |
| <b>K</b> Maximum Digging Depth  | 125 mm (5 in.)                                    | 129 mm (5 in.)                                   | 262 mm (10 in.)                                   |
| <b>L</b> Maximum Rollback at Ground Level   | 45 deg.   | 45 deg.  | 45 deg.   |
| <b>M</b> Maximum Rollback, Boom Fully Raised  | 59 deg.   | 59 deg.  | 60 deg.   |
| <b>N</b> Maximum Bucket Dump Angle, Fully Raised  | 48 deg.   | 48 deg.  | 45 deg.   |
| Loader Clearance Circle, Bucket Carry Position  | 13.0 m (42 ft. 8 in.)                             | 13.0 m (42 ft. 9 in.)                            | 13.3 m (43 ft. 9 in.)                             |
| <b>Capacity</b>   |   |  |   |
| Capacity, Heaped  | 3.3 m <sup>3</sup> (4.25 cu. yd.)                 | 3.4 m <sup>3</sup> (4.50 cu. yd.)                | 3.3 m <sup>3</sup> (4.26 cu. yd.)                 |
| Capacity, Struck  | 2.7 m <sup>3</sup> (3.47 cu. yd.)                 | 2.8 m <sup>3</sup> (3.68 cu. yd.)                | 2.7 m <sup>3</sup> (3.48 cu. yd.)                 |
| Bucket Weight With Bolt-On Cutting Edge   | 1844 kg (4,066 lb.)                               | 1880 kg (4,145 lb.)                              | 1695 kg (3,737 lb.)                               |
| Bucket Width  | 3.04 m (10 ft. 0 in.)                             | 3.04 m (10 ft. 0 in.)                            | 3.04 m (10 ft. 0 in.)                             |
| Breakout Force  | 15 574 kg (34,334 lb.)                            | 15 002 kg (33,074 lb.)                           | 15 568 kg (34,321 lb.)                            |
| Tipping Load, Straight, No Tire Deflection  | 14 548 kg (32,072 lb.)                            | 14 436 kg (31,827 lb.)                           | 12 403 kg (27,344 lb.)                            |
| Tipping Load, Straight, With Tire Deflection  | 13 632 kg (30,053 lb.)                            | 13 524 kg (29,815 lb.)                           | 11 700 kg (25,794 lb.)                            |
| Tipping Load, 40-deg. Full Turn, No Tire Deflection   | 12 667 kg (27,925 lb.)                            | 12 564 kg (27,698 lb.)                           | 10 723 kg (23,639 lb.)                            |
| Tipping Load, 40-deg. Full Turn, With Tire Deflection   | 11 541 kg (25,444 lb.)                            | 11 439 kg (25,219 lb.)                           | 9837 kg (21,687 lb.)                              |
| Rated Operating Load, 50% Full-Turn Tipping Load, No Tire Deflection (conforms to ISO 14397-1)*   | 6333 kg (13,963 lb.)                              | 6282 kg (13,849 lb.)                             | 5361 kg (11,820 lb.)                              |
| Rated Operating Load, 50% Full-Turn Tipping Load, With Tire Deflection (conforms to ISO 14397-1)* | 5771 kg (12,722 lb.)                              | 5720 kg (12,609 lb.)                             | 4919 kg (10,843 lb.)                              |
| Operating Weight  | 18 856 kg (41,571 lb.)                            | 18 892 kg (41,649 lb.)                           | 19 218 kg (42,369 lb.)                            |

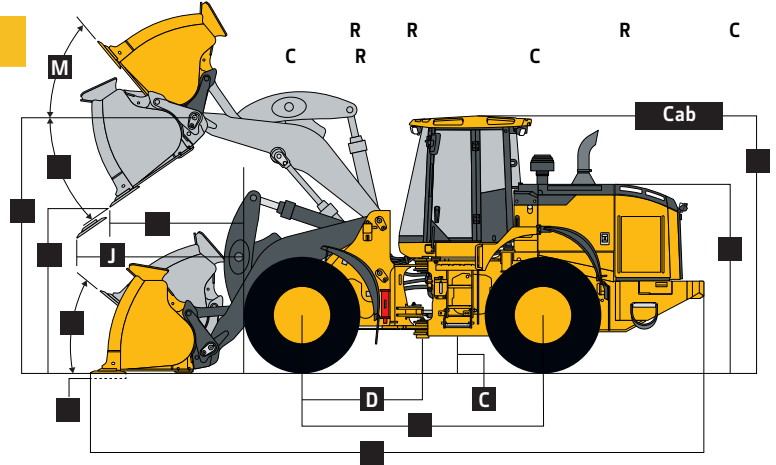
Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PSS 6068 (EPA Final Tier 4/EU Stage V) engine, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.

\*Rated operating capacity based on Deere attachments only.

# 644 X TIER

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Technical specifications table header: i e s i s a p e c i f i c a t i s i t i s C p l e a c e t i t l t e R



|  | Z-Bar                              | Z-Bar                              | High-Lift                          | High-Lift                          |
|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <b>i e s i s i t c e t i t l t e</b>   | 3.1-m <sup>3</sup> (4.0 cu. yd.)   | 3.2-m <sup>3</sup> (4.25 cu. yd.)  | 3.1-m <sup>3</sup> (4.0 cu. yd.)   | 3.2-m <sup>3</sup> (4.25 cu. yd.)  |
| <i>(illustration above right)</i>  | general-purpose                    | general-purpose                    | general-purpose                    | general-purpose                    |
| Height to Top of Cab   | 3.45 m (11 ft. 4 in.)              | 3.45 m (11 ft. 4 in.)              | 3.45 m (11 ft. 4 in.)              | 3.45 m (11 ft. 4 in.)              |
| Hood Height  | 2.51 m (8 ft. 3 in.)               | 2.51 m (8 ft. 3 in.)               | 2.51 m (8 ft. 3 in.)               | 2.51 m (8 ft. 3 in.)               |
| <b>C</b> Ground Clearance  | 386 mm (15.2 in.)                  | 386 mm (15.2 in.)                  | 386 mm (15.2 in.)                  | 386 mm (15.2 in.)                  |
| <b>D</b> Length From Centerline to Front Axle  | 1.66 m (5 ft. 5 in.)               | 1.66 m (5 ft. 5 in.)               | 1.66 m (5 ft. 5 in.)               | 1.66 m (5 ft. 5 in.)               |
| Wheelbase  | 3.31 m (10 ft. 10 in.)             | 3.31 m (10 ft. 10 in.)             | 3.31 m (10 ft. 10 in.)             | 3.31 m (10 ft. 10 in.)             |
| Overall Length, Bucket on Ground   | 8.31 m (27 ft. 3 in.)              | 8.35 m (27 ft. 5 in.)              | 8.77 m (28 ft. 9 in.)              | 8.82 m (28 ft. 11 in.)             |
| Height to Hinge Pin, Fully Raised  | 4.09 m (13 ft. 5 in.)              | 4.09 m (13 ft. 5 in.)              | 4.50 m (14 ft. 9 in.)              | 4.50 m (14 ft. 9 in.)              |
| Dump Clearance, 45 deg., Full Height   | 2.84 m (9 ft. 4 in.)               | 2.81 m (9 ft. 2 in.)               | 3.25 m (10 ft. 8 in.)              | 3.22 m (10 ft. 7 in.)              |
| Reach, 45-deg. Dump, Full Height   | 1.10 m (3 ft. 7 in.)               | 1.13 m (3 ft. 8 in.)               | 1.21 m (4 ft. 0 in.)               | 1.24 m (4 ft. 1 in.)               |
| <b>J</b> Reach, 45-deg. Dump, 2.13-m (7 ft. 0 in.) Clearance   | 1.63 m (5 ft. 4 in.)               | 1.64 m (5 ft. 5 in.)               | 2.05 m (6 ft. 9 in.)               | 2.06 m (6 ft. 9 in.)               |
| Maximum Digging Depth  | 125 mm (5 in.)                     | 129 mm (5 in.)                     | 262 mm (10 in.)                    | 266 mm (10 in.)                    |
| Maximum Rollback at Ground Level   | 45 deg.                            | 45 deg.                            | 45 deg.                            | 45 deg.                            |
| <b>M</b> Maximum Rollback, Boom Fully Raised   | 59 deg.                            | 59 deg.                            | 60 deg.                            | 60 deg.                            |
| Maximum Bucket Dump Angle, Fully Raised  | 48 deg.                            | 48 deg.                            | 45 deg.                            | 45 deg.                            |
| Loader Clearance Circle, Bucket Carry Position   | 13.0 m (42 ft. 9 in.)              | 13.0 m (42 ft. 9 in.)              | 13.5 m (44 ft. 3 in.)              | 13.5 m (44 ft. 4 in.)              |
| <b>p e c i f i c a t i s i t c e t</b>   |                                    |                                    |                                    |                                    |
| Capacity, Heaped   | 3.30 m <sup>3</sup> (4.25 cu. yd.) | 3.40 m <sup>3</sup> (4.50 cu. yd.) | 3.07 m <sup>3</sup> (4.02 cu. yd.) | 3.26 m <sup>3</sup> (4.26 cu. yd.) |
| Capacity, Struck   | 2.70 m <sup>3</sup> (3.47 cu. yd.) | 2.80 m <sup>3</sup> (3.68 cu. yd.) | 2.51 m <sup>3</sup> (3.28 cu. yd.) | 2.66 m <sup>3</sup> (3.48 cu. yd.) |
| Bucket Weight With Bolt-On Cutting Edge  | 1844 kg (4,066 lb.)                | 1880 kg (4,145 lb.)                | 1639 kg (3,613 lb.)                | 1695 kg (3,737 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   | 14 907 kg (32,865 lb.)             | 14 419 kg (31,789 lb.)             | 14 901 kg (32,852 lb.)             | 14 414 kg (31,778 lb.)             |
| ipping oad, traight, o ire e ection  | 13 801 kg (30,425 lb.)             | 13 697 kg (30,196 lb.)             | 11 747 kg (25,898 lb.)             | 11 656 kg (25,698 lb.)             |
| ipping oad, traight, ith ire e ection  | 12 924 kg (28,493 lb.)             | 12 819 kg (28,261 lb.)             | 11 067 kg (24,399 lb.)             | 10 977 kg (24,200 lb.)             |
| ipping oad, deg. ull urn, o ire e ection   | 11 967 kg (26,383 lb.)             | 11 870 kg (26,168 lb.)             | 10 104 kg (22,275 lb.)             | 10 018 kg (22,085 lb.)             |
| ipping oad, deg. ull urn, ith ire e ection   | 10 884 kg (23,995 lb.)             | 10 782 kg (23,770 lb.)             | 9246 kg (20,384 lb.)               | 9156 kg (20,186 lb.)               |
| Rated Operating Load, 50% Full-Turn Tipping Load, o ire e ection conforms to   | 5984 kg (13,192 lb.)               | 5935 kg (13,084 lb.)               | 5052 kg (11,138 lb.)               | 5009 kg (11,042 lb.)               |
| Rated Operating Load, 50% Full-Turn Tipping Load, ith ire e ection conforms to   | 5442 kg (11,998 lb.)               | 5391 kg (11,885 lb.)               | 4623 kg (10,192 lb.)               | 4578 kg (10,093 lb.)               |
| Operating Weight   | 19 281 kg (42,507 lb.)             | 19 338 kg (42,632 lb.)             | 19 643 kg (43,305 lb.)             | 19 700 kg (43,430 lb.)             |
| <i>Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PSS 6068 (EPA Final Tier 4/EU Stage V) engine, ROPS cab, rear cast bumper counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.</i> |                                    |                                    |                                    |                                    |

\*Rated operating capacity based on Deere attachments only.

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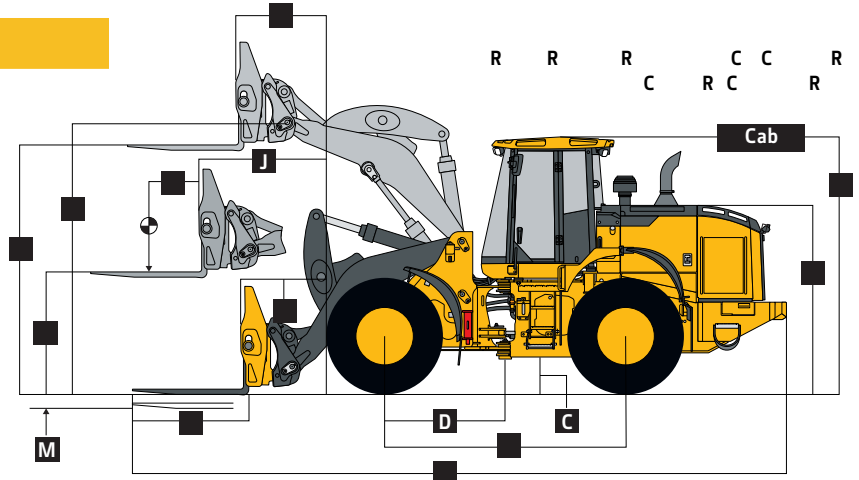
|   | Z-Bar                       | Z-Bar                       | High-Lift                   | High-Lift                   |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| <b>i e s i s i t s</b>                        | 1.52-m (60 in.) tine length | 1.83-m (72 in.) tine length | 1.52-m (60 in.) tine length | 1.83-m (72 in.) tine length |
| <i>(illustration at top of next page)</i>     |                             |                             |                             |                             |
| Height to Top of Cab                          | 3.45 m (11 ft. 4 in.)       | 3.45 m (11 ft. 4 in.)       | 3.45 m (11 ft. 4 in.)       | 3.45 m (11 ft. 4 in.)       |
| Hood Height                                   | 2.51 m (8 ft. 3 in.)        | 2.51 m (8 ft. 3 in.)        | 2.51 m (8 ft. 3 in.)        | 2.51 m (8 ft. 3 in.)        |
| <b>C</b> Ground Clearance                     | 386 mm (15.2 in.)           | 386 mm (15.2 in.)           | 386 mm (15.2 in.)           | 386 mm (15.2 in.)           |
| <b>D</b> Length From Centerline to Front Axle | 1.66 m (5 ft. 5 in.)        | 1.66 m (5 ft. 5 in.)        | 1.66 m (5 ft. 5 in.)        | 1.66 m (5 ft. 5 in.)        |
| Wheelbase                                     | 3.31 m (10 ft. 10 in.)      | 3.31 m (10 ft. 10 in.)      | 3.31 m (10 ft. 10 in.)      | 3.31 m (10 ft. 10 in.)      |
| Overall Length, Forks on Ground               | 9.01 m (29 ft. 7 in.)       | 9.32 m (30 ft. 7 in.)       | 9.41 m (30 ft. 10 in.)      | 9.71 m (31 ft. 10 in.)      |
| Height to Hinge Pin, Fully Raised             | 4.09 m (13 ft. 5 in.)       | 4.09 m (13 ft. 5 in.)       | 4.50 m (14 ft. 9 in.)       | 4.50 m (14 ft. 9 in.)       |
| Reach, Fully Raised                           | 820 mm (32 in.)             | 820 mm (32 in.)             | 930 mm (3 ft. 1 in.)        | 930 mm (3 ft. 1 in.)        |
| Fork Height, Fully Raised                     | 3.78 m (12 ft. 5 in.)       | 3.78 m (12 ft. 5 in.)       | 4.19 m (13 ft. 9 in.)       | 4.19 m (13 ft. 9 in.)       |
| <b>J</b> Maximum Reach, Fork Level            | 1.70 m (5 ft. 7 in.)        | 1.70 m (5 ft. 7 in.)        | 2.05 m (6 ft. 9 in.)        | 2.05 m (6 ft. 9 in.)        |
| Fork Height, Maximum Reach                    | 1.70 m (5 ft. 7 in.)        | 1.70 m (5 ft. 7 in.)        | 1.74 m (5 ft. 9 in.)        | 1.74 m (5 ft. 9 in.)        |
| Reach, Ground Level                           | 1.16 m (3 ft. 10 in.)       | 1.16 m (3 ft. 10 in.)       | 1.56 m (5 ft. 1 in.)        | 1.56 m (5 ft. 1 in.)        |
| <b>M</b> Depth Below Ground                   | 90 mm (3 in.)               | 90 mm (3 in.)               | 220 mm (9 in.)              | 220 mm (9 in.)              |
| Tine Length                                   | 1.52 m (60 in.)             | 1.83 m (72 in.)             | 1.52 m (60 in.)             | 1.83 m (72 in.)             |
| Load Position, 50% Tine Length                | 760 mm (30 in.)             | 910 mm (36 in.)             | 760 mm (30 in.)             | 910 mm (36 in.)             |



While general information, pictures, and descriptions are provided, some illustrations and text may include product options and accessories. Always consult your dealer in all regions, and in some countries products and accessories may require modifications or additions to ensure compliance with the local regulations of those countries.

# 644 X TIER

## Specificati s it i s R C ple a C st cti s (continued) R



| Specificati s it i s (illustration above right)                              | Z-Bar                  | Z-Bar                  | High-Lift              | High-Lift              |
|--|------------------------|------------------------|------------------------|------------------------|
| Tipping Load, straight, 0°   | 9646 kg (21,267 lb.)   | 9146 kg (20,164 lb.)   | 8630 kg (19,026 lb.)   | 8213 kg (18,106 lb.)   |
| Tipping Load, straight, 15°  | 9366 kg (20,648 lb.)   | 8886 kg (19,590 lb.)   | 8382 kg (18,479 lb.)   | 7983 kg (17,599 lb.)   |
| Tipping Load, 40-deg. Full Turn, 0°  | 8397 kg (18,513 lb.)   | 7953 kg (17,533 lb.)   | 7461 kg (16,448 lb.)   | 7090 kg (15,632 lb.)   |
| Tipping Load, 40-deg. Full Turn, 15°   | 8028 kg (17,699 lb.)   | 7608 kg (16,773 lb.)   | 7125 kg (15,708 lb.)   | 6777 kg (14,941 lb.)   |
| Rated Operating Load, 50% Full-Turn Tipping Load, 15°                        | 4014 kg (8,849 lb.)    | 3804 kg (8,386 lb.)    | 3563 kg (7,854 lb.)    | 3389 kg (7,470 lb.)    |
| Rated Operating Load, Rough Terrain, 60% Full Turn Tipping Load, 15°         | 4817 kg (10,619 lb.)   | 4565 kg (10,064 lb.)   | 4275 kg (9,425 lb.)    | 4066 kg (8,964 lb.)    |
| Rated Operating Load, Firm and Level Ground, 60% Full Turn Tipping Load, 15° | 6422 kg (14,159 lb.)   | 6086 kg (13,418 lb.)   | 5700 kg (12,566 lb.)   | 5422 kg (11,953 lb.)   |
| Operating Weight   | 18 750 kg (41,337 lb.) | 18 810 kg (41,470 lb.) | 19 112 kg (42,134 lb.) | 19 172 kg (42,267 lb.) |

Loader operating information is based on machine with identified linkage and standard equipment, PowerTech PSS 6068 (EPA Final Tier 4/EU Stage V) engine, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator. This information is affected by changes in tires, ballast, and different attachments, and assumes no tire deflection per the standard ISO 14397-1 section 5.

\*Rated operating capacity based on Deere attachments only.

## st e ts t pe ati ei ts a ippi a s it c ets

Additional specifications for loader configurations, including operating weight, tipping load, tread width, width over tires, and vertical height.

| Add or deduct g lb. as indicated                          | Operating Weight     | Tipping Load, Straight | Tipping Load, 40-deg. Full Turn | Tread Width | Width Over Tires | Vertical Height |
|---|----------------------|------------------------|---------------------------------|-------------|------------------|-----------------|
| for loaders with piece rims                               | 0 kg (0 lb.)         | 0 kg (0 lb.)           | 0 kg (0 lb.)                    | mm in.      | mm in.           | mm in.          |
| ridgestone, tar   | +101 kg (+223 lb.)   | +771 kg (+170 lb.)     | +68 kg (+150 lb.)               | mm in.      | mm in.           | mm in.          |
| Titan 23.5-25, 20 PR L-3                                  | g lb.                | g lb.                  | g lb.                           | mm in.      | mm in.           | mm in.          |
| Titan 725/70-25 16-Ply L-4T (Logger Style) <sup>158</sup> | +359 kg (+792 lb.)   | +285 kg (+629 lb.)     | +252 kg (+555 lb.)              | mm in.      | mm in.           | mm in.          |
| ridgestone, tar <sup>158</sup>                            | +715 kg (+1,577 lb.) | +557 kg (+1,228 lb.)   | +492 kg (+1,084 lb.)            | mm in.      | mm in.           | mm in.          |

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

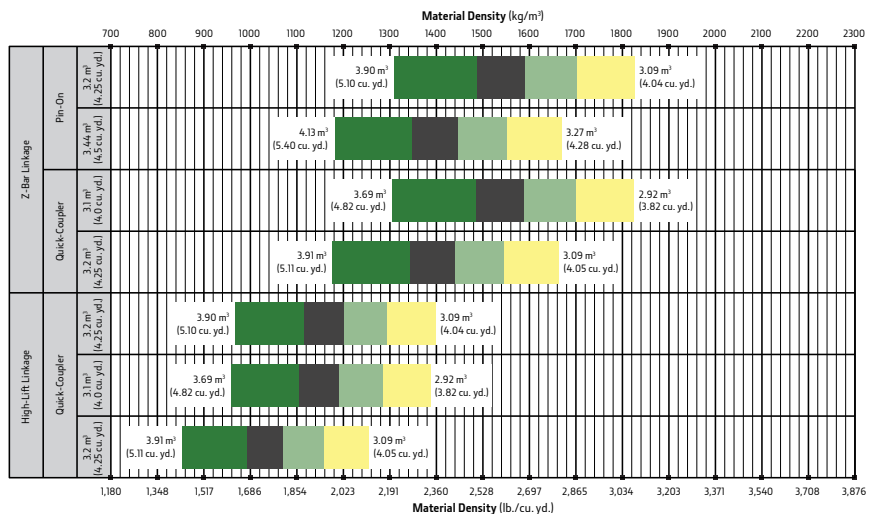
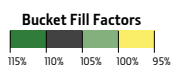
<sup>1</sup>Equipped with 5-piece heavy-duty rims.

<sup>5</sup>CaCl<sub>2</sub> not recommended.

<sup>8</sup>Requires 9-deg. rear axle stops.

## c et elect i es

| LOOSE MATERIALS                  | kg/m <sup>3</sup> | lb./cu. yd. | LOOSE MATERIALS                        | kg/m <sup>3</sup> | lb./cu. yd. |
|----------------------------------|-------------------|-------------|--|-------------------|-------------|
| Chips, pulpwood                  | 288               | 486         | Limestone, coarse, sized               | 1570              | 2,646       |
| Cinders (coal, ashes, clinkers)  | 673               | 1,134       | Limestone, mixed sizes                 | 1682              | 2,835       |
| Clay and gravel, dry             | 1602              | 2,700       | Limestone, pulverized or crushed       | 1362              | 2,295       |
| Clay, compact, solid             | 1746              | 2,943       | Sand, damp                             | 2083              | 3,510       |
| Clay, dry in lump loose          | 1009              | 1,701       | Sand, dry                              | 1762              | 2,970       |
| Clay, excavated in water         | 1282              | 2,160       | Sand, voids, full of water             | 2083              | 3,510       |
| Coal, anthracite, broken, loose  | 865               | 1,458       | Sandstone, quarried                    | 1314              | 2,214       |
| Coal, bituminous, moderately wet | 801               | 1,350       | Shale, broken crushed                  | 1362              | 2,295       |
| Earth, common loam, dry          | 1218              | 2,052       | Slag, furnace granulated               | 1955              | 3,294       |
| Earth, mud, packed               | 1843              | 3,105       | Stone or gravel, 37.5 to 87.5-mm       | 1442              | 2,430       |
| Granite, broken                  | 1538              | 2,592       | (1.5 to 3.5") size                     | 1602              | 2,700       |
| Gypsum                           | 2275              | 3,834       | Stone or gravel, 18.75-mm (0.75") size | 1602              | 2,700       |



# Additional equipment

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

## 644 X Engine

- Wet-sleeve cylinder liners
- Programmable auto-idle and auto shutdown
- Selected idle adjustment from 900–1,250 rpm
- Starter excessive-cranking protection
- Automatic engine cool-down timer
- Automatic derating for exceeded system temperatures
- Serpentine drive belt for automatic tensioner
- Electrical fuel-priming pump
- Dual stage fuel filter and water separator
- 12-hour vertical spin on oil filter
- ▲ Engine-compartment light
- ▲ Chrome exhaust stack
- Automatic glow plugs for cold start
- ▲ Engine-block heater (recommended for cold starts below –23 deg. C [–10 deg. F])
- ▲ Centrifugal engine air pre-cleaner
- ▲ Throttle lock

### Electrical

- Clutch cutoff with 4 operator settings: Automatic, level ground, small slope, or steep slope
- Programmable maximum high gear
- Clutch calibration engaged from monitor
- 12-hour vertical spin on transmission filter
- Transmission fill tube and sight gauge
- Transmission diagnostic ports
- Hybrid-electric (E-Drive) transmission system
- Front locking differential
- ▲ Rear locking differential
- Brake retractors and adjusters
- ▲ Automatic differential lock
- Axle oil temperature sensing

### 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
- Engine oil cooler
- Hydraulic oil cooler (oil to air)
- Transmission oil cooler (oil to air)
- Charge air cooler (air to air)
- Fuel cooler
- Coolant recovery tank
- Antifreeze, –37 deg. C (–34 deg. F)
- Cool-on-demand, hydraulically driven, swing-out fan
- Enclosed fan safety guard
- ▲ Automatic reversing fan drive
- Axle and service-brake coolers

## 644 X Hydraulics

- Electrohydraulic (EH) controls with soft stops and adjustable settings
- In-cab adjustable automatic return-to-dig bucket positioner
- In-cab adjustable automatic boom-height kickout/return to carry
- Reservoir with sight gauge and fill strainer
- Hydraulic diagnostic ports
- 12-hour in-tank filter
- 2 function – joystick with F-N-R
- ▲ 3 function – lever fingertip controls and steering column
- ▲ 3 function – joystick with F-N-R and integrated 3rd-function roller
- ▲ 4 function – lever fingertip controls and steering column
- ▲ 4 function – joystick with F-N-R and integrated 3rd/4th-function rollers
- Programmable multifunction buttons (2)
- Adjustable and continuous hydraulic flow settings
- Programmable attachment settings
- ▲ Ride control, automatic with monitor-adjustable speed settings
- ▲ Hydraulic control system for quick-coupler locking pins
- ▲ Hydraulic cold temperature hydraulic fluid recommended below –13 deg. F

### Steering Systems

- Conventional steering wheel with spinner knob
- ▲ Joystick steering (including conventional steering column) with gearshift, F-N-R, and horn
- ▲ Secondary steering

### Electrical

- Solid-state electrical power-distribution system
- Lockable master electrical-disconnect switch
- Battery-terminal safety covers
- By-pass start safety cover at starter
- Remote jump-start access in battery box
- Pre-wired for beacon/strobe light
- Lights: Halogen driving lights with guards (2) / Front (4), rear cab (2), and rear grille work lights / front turn signals and flashers / stop and taillights
- ▲ Premium LED light package (all exterior lights are heavy-duty LED)
- Programmable courtesy lights
- Horn, electric
- Reverse warning alarm
- Multifunction/multi-language 178-mm (7 in.) LCD color monitor includes: Digital instruments – Analog display (hydraulic oil temperature, engine coolant temperature, transmission oil temperature, and engine oil pressure) / Digital display (engine rpm, transmission gear/direction indicator, hour meter, fuel level, diesel exhaust fluid level, speedometer, odometer, and average fuel consumption)
- ▲ Multifunction/multi-language 127-mm (5 in.) LCD color monitor includes: Digital instruments – Analog display (hydraulic oil temperature, engine coolant temperature, transmission oil temperature, and engine oil pressure) / Digital display (engine rpm, transmission gear/direction indicator, hour meter, fuel level, DEF level, speedometer, odometer, and average fuel consumption)

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan at test conditions per ISO 9249.

No derating is required up to 3050-m (10,000 ft.) altitude. Specifications and design subject to change without notice. Specifications with the exception of bucket capacity are in accordance with all applicable ISO standards. Except where otherwise noted, these specifications are based on units with applicable linkage and standard equipment, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator.

# Additional equipment *(cont.)*

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

## 644 X Electrical *(continued)*

- Integrated cycle counter with 5 categories
- Indicator lights: Standard and selected options / Amber caution and red stop
- Operator-warning messages
- Built-in diagnostics: Diagnostic-code details / Sensor values / Calibrations / Individual circuit tester
- ▲ Electrical corrosion-prevention package
- Standard AM/FM/Weather-Band (WB) radio with remote auxiliary port
- ▲ Premium AM/FM/WB radio with Bluetooth®, remote auxiliary port, and remote USB port (premium cab only)
- 24- to 12-volt, 8-amp converter and cab power ports (3)
- ▲ 24- to 12-volt, 15- or 30-amp converter and cab power ports (3)

### Operator Station

- Standard cab with air conditioning/heater (ROPS/FOPS Level 1, isolation mounted)
- ▲ Premium cab with air conditioning/heater (ROPS/FOPS Level 1, isolation mounted)
- ▲ Automatic temperature control (premium cab only)
- Rear window defrost vent
- Keyless start with multiple security modes
- Sealed-switch module with function indicators
- Seat with backrest extension, deep foam, fabric cover, and adjustable air suspension
- ▲ Premium seat with high-wide back- and headrest extension, heated and ventilated, leather/fabric cover, and adjustable heavy-duty air suspension
- Hydraulic controls integrated to seat
- High-visibility, bright-orange seat belt, 76 mm (3 in.), with retractor
- ▲ Seat-belt minder monitoring with JDLink™ and seat-belt indicator beacon
- Cup holder and cup/Thermos® holder with retaining strap
- Lunch-box/cooler holder with tie-down brackets
- Coat hook
- LED dome and reading light
- Rubber floor mat
- Dual-tilt steering column
- Operator's manual storage compartment
- Outside (2) and inside (1) rearview mirrors
- ▲ Heated outside mirrors with convex lens
- ▲ In-cab adjustable heated outside mirrors with convex lens (premium cab only)
- Left-side operator-station access
- Slip-resistant steps and ergonomic handholds
- Pull-down front sun visor
- Front and rear intermittent windshield wipers and washers
- ▲ Powered cab air pre-cleaner
- ▲ Beacon bracket only
- ▲ Beacon bracket with strobe beacon
- Rearview camera
- ▲ Rearview camera with radar object-detection system

## 644 X Operator Station *(continued)*

- ▲ Dedicated 178-mm (7 in.) rear camera display
  - Payload scale ready
  - ▲ Fire extinguisher
- ### Loader Linkage
- Z-Bar loader linkage (parallel lift)
  - ▲ High-Lift Z-Bar loader linkage (parallel lift)
- ### Buckets and Attachments
- ▲ Full line of Deere pin-on buckets, coupler buckets, and forks
  - ▲ John Deere hydraulic coupler that accepts JRB-pattern attachments
  - ▲ Hi-Vis hydraulic coupler that accepts Euro-pattern attachments (ISO)
  - ▲ Full line of Deere hook-on buckets and forks
- ### Wheels and Tires
- In-vehicle wireless communication system available in specific countries see your dealer for details)
  - NeverGrease™ rear-axle oscillation
  - Front and rear tie-downs
  - Rear cast bumper/counterweight 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, and filler access for radiator fuel hydraulic transmission
  - Left-side service steps and handholds
  - Storage compartment
  - Fuel tank fill strainer
  - Heavy-duty fuel-tank guard
  - Round level fuel and fill
  - Same-side ground-level daily servicing
  - 23.5R25 tires on 3-piece rims
  - ▲ 23.5R25 tires on 5-piece rims
  - ▲ Tire-pressure monitoring system
  - ▲ Waste handler (Z-Bar and High-Lift)
  - Environmental drains and sample ports for engine, transmission, hydraulic oils, and engine coolant
  - ▲ Fuel service engine, transmission, hydraulic oils, and engine coolant
  - ▲ Fast-fuel system
  - Fenders, front narrow
  - ▲ Fenders, front full width
  - ▲ Fenders, front and rear full width
  - ▲ Fenders, front and rear full width with mud flaps
  - ▲ Less wheels and tires with axle stops
  - ▲ Rims less tires
  - ▲ Transmission side-frame and bottom guards
  - ▲ Special guarding for waste applications
  - ▲ Lift eyes
  - ▲ License-plate bracket and light

Illustrations are descriptive and do not represent actual equipment. Specifications are subject to change without notice. Specifications with the exception of bucket capacity are in accordance with all applicable ISO standards. Except where otherwise noted, these specifications are based on units with applicable linkage and standard equipment, ROPS cab, rear cast bumper/counterweight, transmission side-frame guards, bottom guards, standard tires, full fuel tank, and 79-kg (175 lb.) operator.

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