



**JOHN DEERE**

**JD**

CONSTRUCTION EQUIPMENT

LOADERS



MODEL NO.

**644H**



**H-SERIES**

# 644H

LOADER

SPECIFICATIONS



## Engine

### 644H

|                           |   |
|---------------------------|---|
| Type                      | John Deere POWERTECH™ 6081H; meets EPA Tier II non-road emissions regulations                     |
| Cylinders                 | 6   |
| Displacement              | 496 cu. in. (8.1 L)   |
| Rated power               | 180 SAE net hp (134 kW) @ 2,200 rpm   |
| Peak power                | 221 SAE net hp (165 kW) @ 1,600 rpm   |
| Net peak torque           | 755 lb.-ft. (1020 Nm) @ 1,300 rpm   |
| Net torque rise           | 75%   |
| Net power bulge           | 23%   |
| Fuel system               | high-pressure common rail   |
| Fuel consumption, typical | 4.3 to 7.5 gal./hr. (16.3 to 28.4 L/h)  |
| Fuel tank capacity        | 100 gal. (379 L)  |
| Lube system               | full-flow spin-on filter and integral cooler  |
| Aspiration                | turbocharged, charge air cooled   |
| Air cleaner               | dual element dry type; restriction indicator for service  |
| Fan drive                 | hydraulically driven, fan aft of coolers  |
| Airflow                   | rearward  |
| Electrical system         | 24 volt with 55-amp alternator  |
| Batteries (two 12 volt)   | 950 CCA; reserve capacity: 200 min. – standard / 1,400 CCA; reserve capacity: 200 min. – optional |

## Transmission

|                    |  |                      |
|--------------------|--|----------------------|
| Type               | countershaft-type power shift  |                      |
| Converter          | single-stage, single-phase torque converter  |                      |
| Shift control      | electronically modulated, adaptive, load and speed dependent                             |                      |
| Operator interface | steering column-mounted twist-grip shift lever, quick-shift button on hydraulic lever    |                      |
| Shift modes        | auto/manual, auto to 1st or 2nd, kick down or kick up/down, three clutch cutoff settings |                      |
| Travel speeds*     | <i>Forward</i>   | <i>Reverse</i>       |
| Gear 1             | 4.6 mph (7.4 km/h)   | 4.9 mph (7.9 km/h)   |
| Gear 2             | 7.6 mph (12.2 km/h)  | 8.0 mph (12.8 km/h)  |
| Gear 3             | 14.7 mph (23.6 km/h)   | 15.5 mph (24.9 km/h) |
| Gear 4             | 22.0 mph (35.4 km/h)   |                      |

\*Equipped with 23.5 R 25 radial tires.

## Axles/Brakes

|  |   |
|--|---|
| Final drives                           | heavy-duty inboard planetary  |
| Differentials                          | conventional front and rear – standard; hydraulic locking front, conventional rear – optional; dual locking front and rear – optional; limited slip front and rear – optional |
| Rear axle oscillation, stop to stop    | 26 degrees  |
| Brakes (conform to SAE J1473, ISO3450) |   |
| Service brakes                         | hydraulically actuated, inboard, carrier mounted, pressure oil cooled, self adjusting, multi disc   |
| Parking brake                          | automatically spring applied, hydraulically released, oil cooled, multi disc  |

## Hydraulic System/Steering

|                            |  |
|----------------------------|--|
| Pump (loader and steering) | variable-displacement, axial piston pump; closed-center, pressure-compensating system  |
| Maximum flow               | 68 gpm (257 L/m) @ 1,000 psi (6895 kPa) and 2,200 rpm  |
| Pressure                   | loader and steering relief 3,600 psi (24 850 kPa)  |
| Loader controls            | two-function valve; single- and dual-lever controls; control lever lockout feature; optional third- and fourth-function valve with auxiliary lever |
| Hydraulic cycle times      |  |
| Raise                      | 6.2 sec.   |
| Dump                       | 1.4 sec.   |
| Lower                      | 3.0 sec. (float down) / 3.5 sec. (power down)  |
| Total                      | 10.6 sec.  |
| Maximum lift capacity      | with 4.25-cu. yd. (3.3 m <sup>3</sup> ) stockpiling and general-purpose bucket with bolt-on cutting edge   |
| Lift at ground level       | 34,166 lb. (15 495 kg)   |
| Lift at maximum height     | 20,226 lb. (9173 kg)   |

**Hydraulic System/  
Steering (continued)**

**644H**

Steering (conforms to SAE J1511)

- Type.....power, fully hydraulic
- Pressure .....3,600 psi (24 850 kPa) relief
- Articulation angle .....80-degree arc (40 degrees each direction)
- Turning radius (measured to centerline  
of outside tire) .....18 ft. 0 in. (5500 mm)

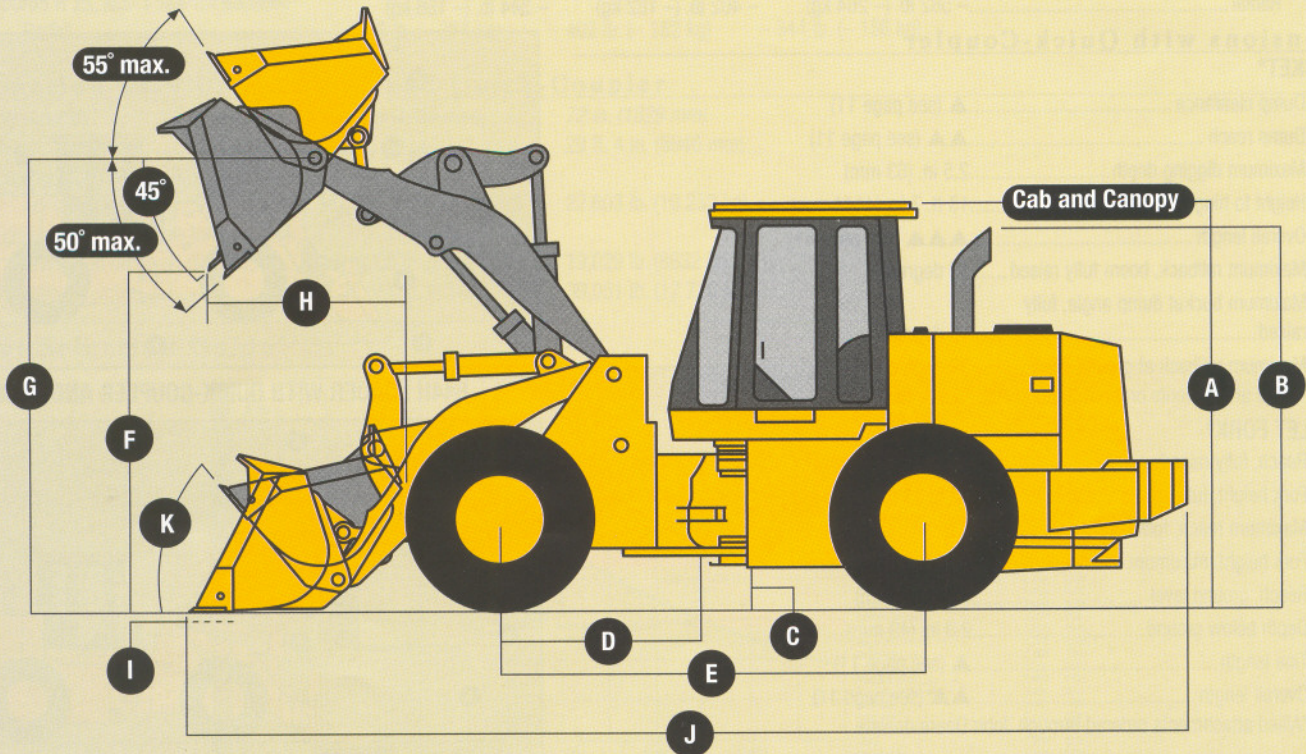
**Tires**

| Choice of                                      | Tread Width        | Width Over Tires    | Change In Vertical Height |
|--|--------------------|---------------------|---------------------------|
| 20.5 R 25, XHA 1 Star L2 Michelin Radial       | 85.4 in. (2170 mm) | 106.2 in. (2697 mm) | - 2.8 in. (- 71 mm)       |
| 23.5-25, 12 PR L2*                             | 85.4 in. (2170 mm) | 113.1 in. (2874 mm) | - 1.5 in. (- 37 mm)       |
| 23.5-25, 20 PR L3*                             | 85.4 in. (2170 mm) | 113.4 in. (2881 mm) | - 0.1 in. (- 2 mm)        |
| 28L-26, 14 PR LS2*                             | 89.4 in. (2272 mm) | 117.6 in. (2986 mm) | 0.4 in. (11 mm)           |
| 23.5 R 25, GP-2B 1 Star L2 Goodyear<br>Radial* | 85.4 in. (2170 mm) | 113.2 in. (2875 mm) | 0 in. (0 mm)              |
| 23.5 R 25, VMT 1 Star L3 Firestone<br>Radial*  | 85.4 in. (2170 mm) | 106.3 in. (2700 mm) | 0.1 in. (2 mm)            |
| 23.5 R 25, VUT 1 Star L2 Firestone<br>Radial*  | 85.4 in. (2170 mm) | 106.4 in. (2703 mm) | - 0.2 in. (- 4 mm)        |
| 23.5 R 25, XHA 1 Star L3 Michelin Radial*      | 85.4 in. (2170 mm) | 109.1 in. (2772 mm) | - 1.2 in. (- 30 mm)       |
| 650/65 R 25, XLD 1 Star L3 Michelin<br>Radial* | 85.4 in. (2170 mm) | 110.0 in. (2795 mm) | - 3.1 in. (- 79 mm)       |

\*Requires 9-degree axle stops.

**Dimensions with Pin-on Type Bucket**

- A** Height to top of cab and canopy .....11 ft. 2 in. (3404 mm)
- B** Height to top of exhaust .....11 ft. 0 in. (3353 mm)
- C** Ground clearance .....18.1 in. (461 mm)
- D** Length from centerline to front axle.....63 in. (1600 mm)
- E** Wheelbase.....126 in. (3200 mm)
- F** Dump height .....▲ (see page 10)
- G** Height to top of cab and canopy .....11 ft. 2 in. (3404 mm)
- H** Height to hinge pin, fully raised .....13 ft. 7 in. (4144 mm)
- I** Dump reach.....▲▲ (see page 10)
- J** Maximum digging depth .....2.7 in. (69 mm)
- K** Overall length .....▲▲▲ (see page 10)
- L** Maximum rollback at ground level.....40 degrees



## Pin-on Type Bucket Information

### 644H

| Bucket Type/Size  | Stockpiling and General Purpose w/Bolt-on Edge | Stockpiling and General Purpose w/Teeth and Segments | Stockpiling and General Purpose w/Jagz™ | Excavating w/Bolt-on Edge | Excavating w/Teeth and Segments |
|---|--|--|---|---------------------------|---------------------------------|
| Capacity, heaped SAE .....                              | 4.25 cu. yd. (3.3 m³)                          | 4.25 cu. yd. (3.3 m³)                                | 4.5 cu. yd. (3.4 m³)                    | 3.5 cu. yd. (2.7 m³)      | 3.5 cu. yd. (2.7 m³)            |
| Capacity, struck SAE .....                              | 3.7 cu. yd. (2.8 m³)                           | 3.7 cu. yd. (2.8 m³)                                 | 3.9 cu. yd. (3.0 m³)                    | 3.0 cu. yd. (2.3 m³)      | 3.0 cu. yd. (2.3 m³)            |
| Bucket width .....                                      | 114.2 in. (2900 mm)                            | 114.2 in. (2900 mm)                                  | 114.2 in. (2900 mm)                     | 114.2 in. (2900 mm)       | 114.2 in. (2900 mm)             |
| Breakout force, SAE J732C .....                         | 34,407 lb. (15 604 kg)                         | 34,407 lb. (15 604 kg)                               | 33,961 lb. (15 402 kg)                  | 39,183 lb. (17 770 kg)    | 39,183 lb. (17 770 kg)          |
| Tipping load, straight .....                            | 31,210 lb. (14 154 kg)                         | 31,044 lb. (14 079 kg)                               | 31,150 lb. (14 127 kg)                  | 31,946 lb. (14 488 kg)    | 31,783 lb. (14 414 kg)          |
| Tipping load, 40-degree full turn, SAE .....            | 26,281 lb. (11 919 kg)                         | 26,118 lb. (11 845 kg)                               | 26,215 lb. (11 889 kg)                  | 26,941 lb. (12 218 kg)    | 26,784 lb. (12 147 kg)          |
| Reach, 45-degree dump, 7-ft. (2.13 m) clearance .....   | 65.7 in. (1668 mm)                             | 67.6 in. (1718 mm)                                   | 66.2 in. (1681 mm)                      | 63.3 in. (1609 mm)        | 65.6 in. (1665 mm)              |
| ▲▲ Reach, 45-degree dump, full height .....             | 42.2 in. (1071 mm)                             | 46.2 in. (1174 mm)                                   | 42.8 in. (1087 mm)                      | 37.9 in. (962 mm)         | 41.9 in. (1064 mm)              |
| ▲ Dump clearance, 45 degree, full height .....          | 115.8 in. (2942 mm)                            | 111.9 in. (2841 mm)                                  | 115.7 in. (2938 mm)                     | 120.2 in. (3052 mm)       | 116.2 in. (2951 mm)             |
| ▲▲▲ Overall length, bucket on ground .....              | 26 ft. 5 in. (8045 mm)                         | 26 ft. 8 in. (8197 mm)                               | 26 ft. 5 in. (8055 mm)                  | 25 ft. 8 in. (7880 mm)    | 26 ft. 4 in. (8032 mm)          |
| Loader clearance circle, bucket in carry position ..... | 42 ft. 3 in. (12 875 mm)                       | 42 ft. 7 in. (12 978 mm)                             | 42 ft. 3 in. (12 880 mm)                | 41 ft. 11 in. (12 775 mm) | 42 ft. 3 in. (12 867 mm)        |
| Operating weight .....                                  | 38,876 lb. (17 631 kg)                         | 39,004 lb. (17 689 kg)                               | 38,971 lb. (17 674 kg)                  | 38,605 lb. (17 508 kg)    | 38,733 lb. (17 566 kg)          |

Loader operating information is based on machine with all standard equipment; 23.5 R 25, GP-2B radial tires; standard counterweight; ROPS/FOPS cab; 175-lb. (79 kg) operator; and full fuel tank. This information is affected by tire size, ballast, and different attachments.

## Adjustments to Operating Weights with Pin-on Buckets

Adjustments to operating weights and tipping loads for 4.25-cu.-yd. (3.3 m³) general-purpose bucket with bolt-on cutting edge; bucket weight is 3,554 lb. (1612 kg)

Add (+) or deduct (-) lb. (kg) as indicated

for loaders with

|  | Operating Weight       | Tipping Load, Straight |
|--|------------------------|------------------------|
| 20.5 R 25, XHA 1 Star L2 Michelin Radial .....   | - 1,641 lb. (- 744 kg) | - 1,132 lb. (- 513 kg) |
| 23.5-25, 12 PR L2 .....                          | - 1,464 lb. (- 664 kg) | - 1,010 lb. (- 458 kg) |
| 23.5-25, 20 PR L3 .....                          | - 309 lb. (- 140 kg)   | - 213 lb. (- 97 kg)    |
| 28L-26, 14 PR LS2 .....                          | + 88 lb. (+ 40 kg)     | + 61 lb. (+ 28 kg)     |
| 23.5 R 25, GP-2B 1 Star L2 Goodyear Radial ..... | 0 lb. (0 kg)           | 0 lb. (0 kg)           |
| 23.5 R 25, VMT 1 Star L3 Firestone Radial .....  | + 926 lb. (+ 420 kg)   | + 639 lb. (+ 290 kg)   |
| 23.5 R 25, VJT 1 Star L2 Firestone Radial .....  | + 141 lb. (+ 64 kg)    | + 97 lb. (+ 44 kg)     |
| 23.5 R 25, XHA 1 Star L3 Michelin Radial .....   | + 106 lb. (+ 48 kg)    | + 73 lb. (+ 33 kg)     |
| 650/65 R 25, XLD 1 Star L3 Michelin Radial ..... | - 582 lb. (- 264 kg)   | - 402 lb. (- 182 kg)   |

Tipping Load, 40-Degree Full Turn

|                      |
|----------------------|
| - 968 lb. (- 439 kg) |
| - 864 lb. (- 392 kg) |
| - 182 lb. (- 83 kg)  |
| + 52 lb. (+ 24 kg)   |
| 0 lb. (0 kg)         |
| + 546 lb. (+ 248 kg) |
| + 83 lb. (+ 38 kg)   |
| + 62 lb. (+ 28 kg)   |
| - 344 lb. (- 156 kg) |

## Dimensions with Quick-Coupler

### BUCKET\*

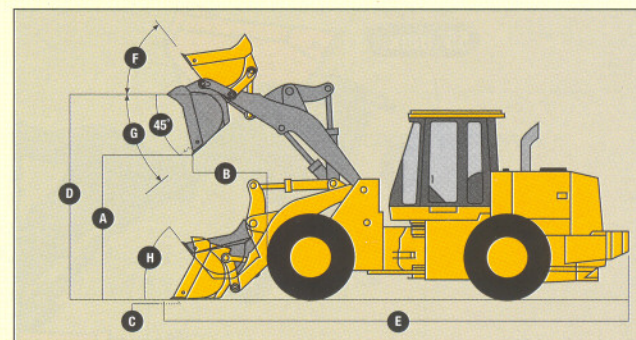
|   |                        |
|---|------------------------|
| A Dump clearance .....                          | ▲ (see page 11)        |
| B Dump reach .....                              | ▲▲ (see page 11)       |
| C Maximum digging depth .....                   | 2.5 in. (63 mm)        |
| D Height to hinge pin, fully raised .....       | 13 ft. 7 in. (4144 mm) |
| E Overall length .....                          | ▲▲▲ (see page 11)      |
| F Maximum rollback, boom fully raised .....     | 55 degrees             |
| G Maximum bucket dump angle, fully raised ..... | 45 degrees             |
| H Maximum rollback at ground level .....        | 39 degrees             |

\*Allied attachments ordered through John Deere dealers.

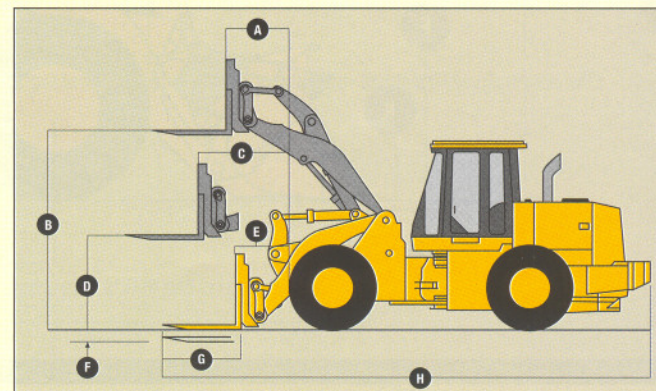
### PALLET FORK\*

|                                    |                         |
|------------------------------------|-------------------------|
| A Reach, fully raised .....        | 2 ft. 1 in. (642 mm)    |
| B Fork height, fully raised .....  | 12 ft. 11 in. (3929 mm) |
| C Maximum reach, fork level .....  | 5 ft. 1 in. (1537 mm)   |
| D Fork height, maximum reach ..... | 6 ft. 1 in. (1848 mm)   |
| E Reach, ground level .....        | 3 ft. (925 mm)          |
| F Depth below ground .....         | 2.0 in. (49 mm)         |
| G Tine length .....                | ▲ (see page 11)         |
| H Overall length .....             | ▲▲ (see page 11)        |

\*Allied attachments ordered through John Deere dealers.



644H LOADER WITH QUICK-COUPLER AND BUCKET\*



644H LOADER WITH QUICK-COUPLER AND PALLET FORK\*

## Quick-Coupler

### Information with Bucket 644H

| Bucket Type/Size                                  | Stockpiling and General Purpose w/Bolt-on Edge | Stockpiling and General Purpose w/Teeth and Segments | Excavating w/Bolt-on Edge         | Excavating w/Teeth and Segments   |
|---|--|--|-----------------------------------|-----------------------------------|
| Capacity, heaped SAE                              | 4.25 cu. yd. (3.3 m <sup>3</sup> )             | 4.25 cu. yd. (3.3 m <sup>3</sup> )                   | 3.5 cu. yd. (2.7 m <sup>3</sup> ) | 3.5 cu. yd. (2.7 m <sup>3</sup> ) |
| Capacity, struck SAE                              | 3.8 cu. yd. (2.9 m <sup>3</sup> )              | 3.8 cu. yd. (2.9 m <sup>3</sup> )                    | 3.1 cu. yd. (2.4 m <sup>3</sup> ) | 3.1 cu. yd. (2.4 m <sup>3</sup> ) |
| Bucket width                                      | 114.2 in. (2900 mm)                            | 114.2 in. (2900 mm)                                  | 114.2 in. (2900 mm)               | 114.2 in. (2900 mm)               |
| Breakout force, SAE J732C                         | 28,976 lb. (13 141 kg)                         | 28,976 lb. (13 141 kg)                               | 32,786 lb. (14 869 kg)            | 32,786 lb. (14 869 kg)            |
| Tipping load, straight                            | 29,121 lb. (13 207 kg)                         | 28,958 lb. (13 133 kg)                               | 29,820 lb. (13 524 kg)            | 29,510 lb. (13 383 kg)            |
| Tipping load, 40-degree full turn, SAE            | 24,394 lb. (11 063 kg)                         | 24,235 lb. (10 991 kg)                               | 25,040 lb. (11 356 kg)            | 24,733 lb. (11 217 kg)            |
| Reach, 45-degree dump, 7-ft. (2.13 m) clearance   | 62.9 in. (1598 mm)                             | 63.8 in. (1620 mm)                                   | 67.0 in. (1701 mm)                | 68.9 in. (1750 mm)                |
| ▲▲ Reach, 45-degree dump, full height             | 44.4 in. (1128 mm)                             | 48.1 in. (1222 mm)                                   | 44.2 in. (1122 mm)                | 48.2 in. (1225 mm)                |
| ▲ Dump clearance, 45 degree, full height          | 106.8 in. (2713 mm)                            | 102.5 in. (2603 mm)                                  | 114.5 in. (2908 mm)               | 110.5 in. (2807 mm)               |
| ▲▲▲ Overall length, bucket on ground              | 27 ft. 1 in. (8266 mm)                         | 27 ft. 7 in. (8418 mm)                               | 26 ft. 7 in. (8101 mm)            | 27 ft. 1 in. (8253 mm)            |
| Loader clearance circle, bucket in carry position | 42 ft. 9 in. (13 018 mm)                       | 43 ft. (13 118 mm)                                   | 42 ft. 5 in. (12 916 mm)          | 42 ft. 8 in. (13 012 mm)          |
| Operating weight                                  | 40,224 lb. (18 242 kg)                         | 40,349 lb. (18 299 kg)                               | 39,791 lb. (18 046 kg)            | 40,089 lb. (18 181 kg)            |

Loader operating information is based on machine with all standard equipment; 23.5 R 25, GP-2B radial tires; standard counterweight; ROPS/FOPS cab; 175-lb. (79 kg) operator; and full fuel tank. This information is affected by tire size, ballast, and different attachments.

### Adjustments to Operating Weights for Quick-Coupler with Bucket

#### Adjustments to operating weights and tipping loads for 4.25-cu.-yd. (3.3 m<sup>3</sup>) stockpiling bucket with bolt-on cutting edge

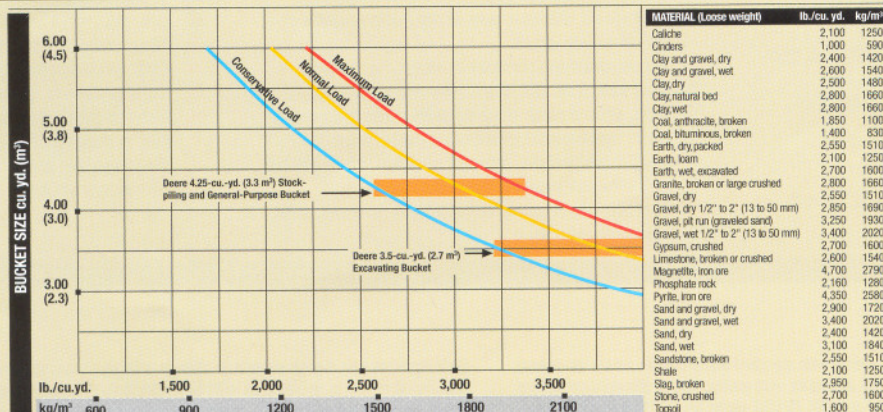
Add (+) or deduct (-) lb. (kg) as indicated

|  | Operating Weight       | Tipping Load, Straight | Tipping Load, 40-Degree Full Turn, SAE |
|--|------------------------|------------------------|--|
| for loaders with                           |                        |                        |  |
| 20.5 R 25, XHA 1 Star L2 Michelin Radial   | - 1,641 lb. (- 744 kg) | - 1,132 lb. (- 513 kg) | - 968 lb. (- 439 kg)                   |
| 23.5-25, 12 PR L2                          | - 1,464 lb. (- 664 kg) | - 1,010 lb. (- 458 kg) | - 864 lb. (- 392 kg)                   |
| 23.5-25, 20 PR L3                          | - 309 lb. (- 140 kg)   | - 213 lb. (- 97 kg)    | - 182 lb. (- 83 kg)                    |
| 28L-26, 14 PR LS2                          | + 88 lb. (+ 40 kg)     | + 61 lb. (+ 28 kg)     | + 52 lb. (+ 24 kg)                     |
| 23.5 R 25, GP-2B 1 Star L2 Goodyear Radial | 0 lb. (0 kg)           | 0 lb. (0 kg)           | 0 lb. (0 kg)                           |
| 23.5 R 25, VMT 1 Star L3 Firestone Radial  | + 926 lb. (+ 420 kg)   | + 639 lb. (+ 290 kg)   | + 546 lb. (+ 248 kg)                   |
| 23.5 R 25, VJT 1 Star L2 Firestone Radial  | + 141 lb. (+ 64 kg)    | + 97 lb. (+ 44 kg)     | + 83 lb. (+ 38 kg)                     |
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| 650/65 R 25, XLD 1 Star L3 Michelin Radial | - 582 lb. (- 264 kg)   | - 402 lb. (- 182 kg)   | - 344 lb. (- 156 kg)                   |

### Information with Utility Fork and Quick-Coupler

|   |                        |                        |
|---|------------------------|------------------------|
| ▲ Tine Length   | 60 in. (1525 mm)       | 72 in. (1829 mm)       |
| ▲▲ Overall length   | 28 ft. 4 in. (8641 mm) | 29 ft. 4 in. (8946 mm) |
| Tipping load, straight (fork level, load centered on tine)            | 22,782 lb. (10 334 kg) | 22,603 lb. (10 252 kg) |
| Tipping load, 40-degree full turn (fork level, load centered on tine) | 19,206 lb. (8712 kg)   | 19,029 lb. (8632 kg)   |
| Operating weight  | 38,854 lb. (17 621 kg) | 39,051 lb. (17 710 kg) |

### Bucket Selection Guide\*



\* 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 charges due to optional equipment. The "conservative load" line on this guide is recommended when operating in conditions such as soft ground and uneven surfaces. The "maximum load" condition on this guide is sometimes utilized when operating on firm ground and level surfaces.