



JOHN DEERE

JD

CONSTRUCTION EQUIPMENT

LOADERS



MODEL NO.

644H



H-SERIES

644H

LOADER

SPECIFICATIONS



CONSTRUCTION EQUIPMENT

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 ³) 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
- Pressure3,600 psi (24 850 kPa) relief
- Articulation angle80-degree arc (40 degrees each direction)
- Turning radius (measured to centerline
of outside tire)18 ft. 0 in. (5500 mm)

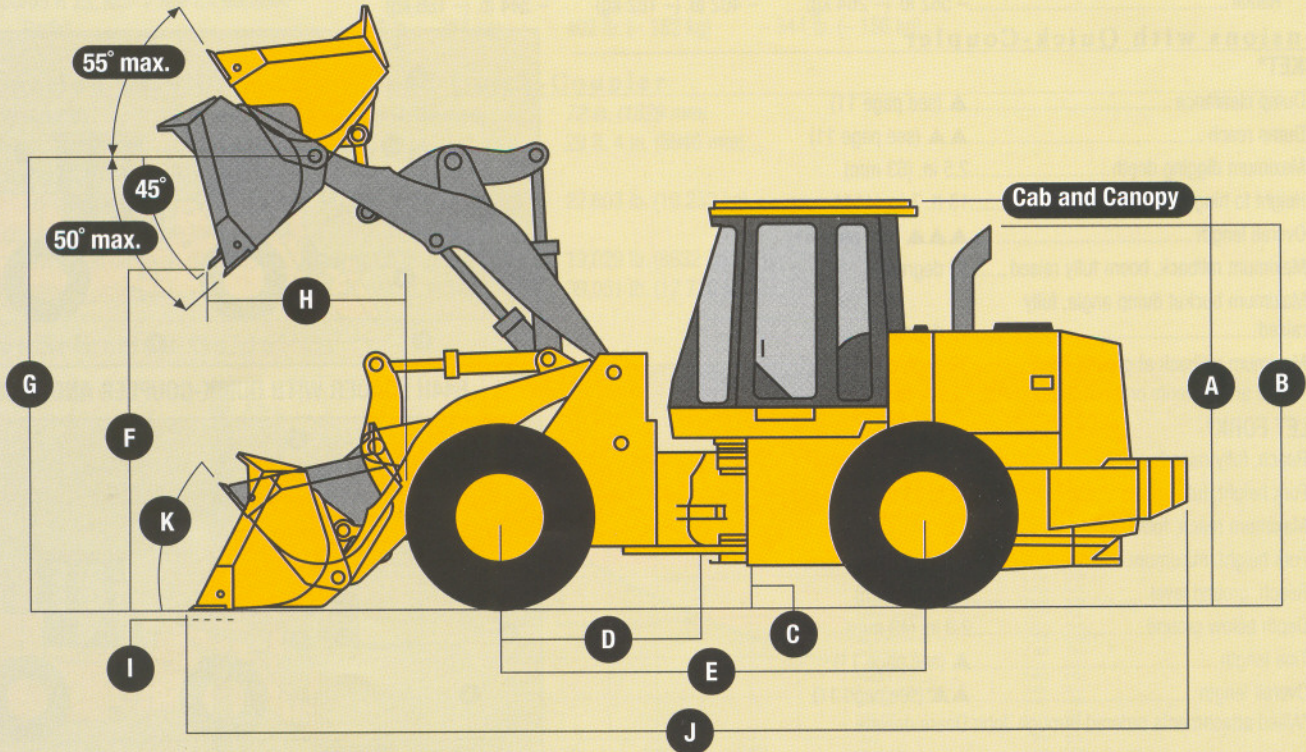
Tires

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 Radial*	85.4 in. (2170 mm)	113.2 in. (2875 mm)	0 in. (0 mm)
23.5 R 25, VMT 1 Star L3 Firestone 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 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 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 canopy11 ft. 2 in. (3404 mm)
- B** Height to top of exhaust11 ft. 0 in. (3353 mm)
- C** Ground clearance18.1 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 canopy11 ft. 2 in. (3404 mm)
- H** Height to hinge pin, fully raised13 ft. 7 in. (4144 mm)
- I** Dump reach.....▲▲ (see page 10)
- J** Maximum digging depth2.7 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*

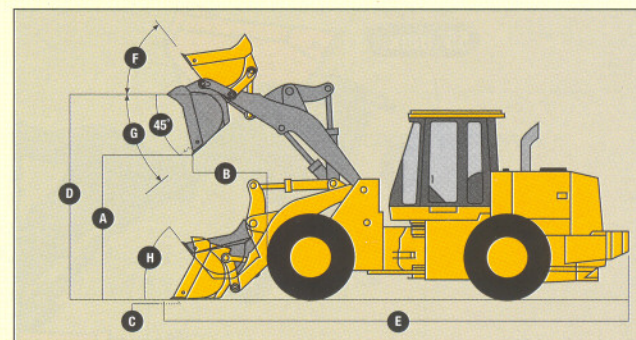
A	Dump clearance	▲ (see page 11)
B	Dump reach	▲▲ (see page 11)
C	Maximum digging depth	2.5 in. (63 mm)
D	Height to hinge pin, fully raised	13 ft. 7 in. (4144 mm)
E	Overall length	▲▲▲ (see page 11)
F	Maximum rollback, boom fully raised	55 degrees
G	Maximum bucket dump angle, fully raised	45 degrees
H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

*Allied attachments ordered through John Deere dealers.

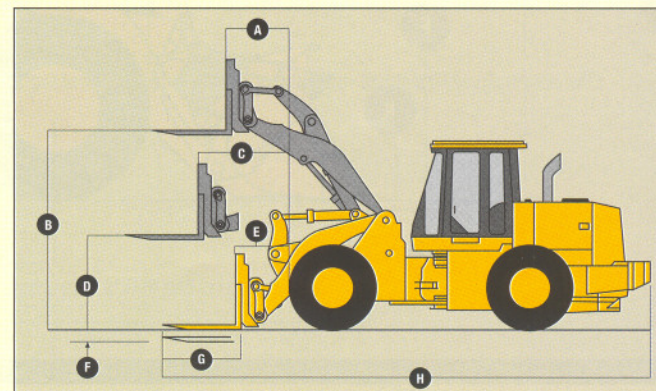
PALLET FORK*

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 ³)	4.25 cu. yd. (3.3 m ³)	3.5 cu. yd. (2.7 m ³)	3.5 cu. yd. (2.7 m ³)
Capacity, struck SAE	3.8 cu. yd. (2.9 m ³)	3.8 cu. yd. (2.9 m ³)	3.1 cu. yd. (2.4 m ³)	3.1 cu. yd. (2.4 m ³)
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 m³) stockpiling bucket with bolt-on cutting edge

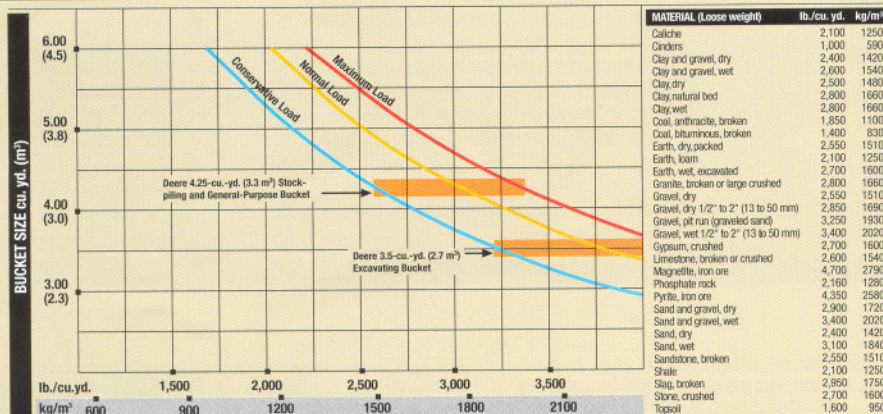
Add (+) or deduct (-) lb. (kg) as indicated

	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)
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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)
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23.5 R 25, XHA 1 Star L3 Michelin Radial	+ 106 lb. (+ 48 kg)	+ 73 lb. (+ 33 kg)	+ 62 lb. (+ 28 kg)
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.