

## ENGINE

John Deere engineered and manufactured. Replaceable wet type cylinder liners provide superior heat dissipation, longer life. High strength alloy heads have replaceable valve inserts. The forged steel, 5-main bearing crankshaft is statically and dynamically balanced for smooth operation. Cast aluminum pistons provide good heat transfer and pistons are sprayed with cooling oil for longer life.

**Engine:** John Deere 6466T  
 Rated power @ 2200 rpm ..... 160 SAE net hp (119 kW)  
 ..... 168 SAE gross hp (125 kW)  
 Cylinders ..... 6  
 Displacement ..... 466 cu. in. (7.636 L)  
 Fuel consumption, typical ..... 3.0 to 5.9 gal/hr (11.3 to 22.3 L/h)  
 Maximum net torque at 1400 rpm ..... 510 lb-ft (691 Nm)  
 Air cleaner ..... dual stage dry type with restriction indicator  
 Electrical system ..... 12 volt with 65-amp alternator  
 Battery (one 12 volt)  
 25 amps at 80°F (27°C) ..... reserve capacity 160 min.  
 BCI group 27 cold cranking capacity  
 at 0°F (-18°C) ..... 925 amps

## TRANSMISSION

A full power shift torque-converter-type transmission provides four speeds forward and three reverse speeds. A single-stage, single phase torque converter and countershaft style power shift transmission are paired for smooth and modulated shifts.

### TRAVEL SPEEDS

Gear	Forward		Reverse	
	mph	(km/h)	mph	(km/h)
1	4.8	7.7	4.8	7.7
2	7.6	12.2	7.6	12.2
3	16.4	26.4	16.4	26.4
4	25.5	41.0		

## FINAL DRIVES

Large, heavy-duty, planetary final drive gears are mounted inboard where size is not restricted by wheel diameter. They distribute axle shock loads evenly over three gears and run in a cooling oil bath for long life and trouble-free service.

## DIFFERENTIALS

Conventional front and rear differentials are standard. John Deere's exclusive hydraulic differential lock is the superior traction alternative. It can be ordered on the front, with a conventional differential in the rear. Or you can order the hydraulic lock front and rear. In either case the operator is in complete control, engaging and disengaging the differential lock as needed. When engaged the affected wheels are 100 percent locked up; turning at the same speed, giving maximum traction for faster loading, pulling you through slippery spots. Differentials available:

Conventional front and rear	standard
Hydraulic lock front, conventional rear	optional
NoSPIN front, conventional rear	optional
Hydraulic lock front and rear	optional
Front axle disconnect	optional

## BRAKES

Hydraulic actuated, wet disk brakes are mounted inboard. They are bathed in cooling oil for long life, self-adjusting, self-equalizing, and require no periodic service. The foot-operated parking brake is an expanding shoe attached to the transmission output shaft. An optional front axle disconnect is available for loaders that might be driven long distances.

## STEERING

The steering system in the 644E provides low effort, smooth control at any engine rpm. High torque steering cylinder geometry and large cylinders permit full power steering at all speeds through the 80 degree steering arc (40 degrees each direction).

Turning radius (measured to centerline of outside tire)	17 ft. 9 in. (5.42 m)
Rear axle oscillation	26 degrees, stop to stop
Vertical travel at center of tire	36.1 in. (916 mm)

## HYDRAULICS

### Loader functions and steering:

A gear pump delivers 65.5 gpm (248 L/min) at 600 psi (4137 kPa) and 2200 engine rpm. The loader function relief valve pressure setting is 2850 psi (19 651 kPa). The maximum steering pressure is 2600 psi (17 927 kPa).

### Controls:

Dual pilot hydraulic valves with one or two levers. An optional triple valve is available for forks and attachments.

### Brakes and pilot system:

The axial-piston pump delivers 8.1 gpm (31 L/min) at 600 psi (4137 kPa) and 2200 engine rpm. Maximum system pressure is 2300 psi (15 859 kPa).

### Loader operating cycle times at full throttle with rated load in the bucket:

Raise	6.2 sec.
Dump	1.8 sec.
Lower	3.5 sec. (float) 4.5 sec. (power)

### Maximum lift capacity with 3.25 cu. yd. (2.5 m<sup>3</sup>) excavating bucket:

Maximum height	17,437 lb. (7908 kg)
Ground level	27,655 lb. (12 542 kg)

## TIRES

### Choice of:

16.00-24, 12 PR G2	20.5-25, Radial, One Star L3 equivalent
20.5-25, 12 PR L2	20.5-25, Radial, One Star L2 equivalent
20.5-25, 16 PR L2	23.5-25, 12 PR L2
20.5-25, 16 PR L3	23.5-25, 20 PR L3
	23.5-25, Radial, One Star L3 equivalent

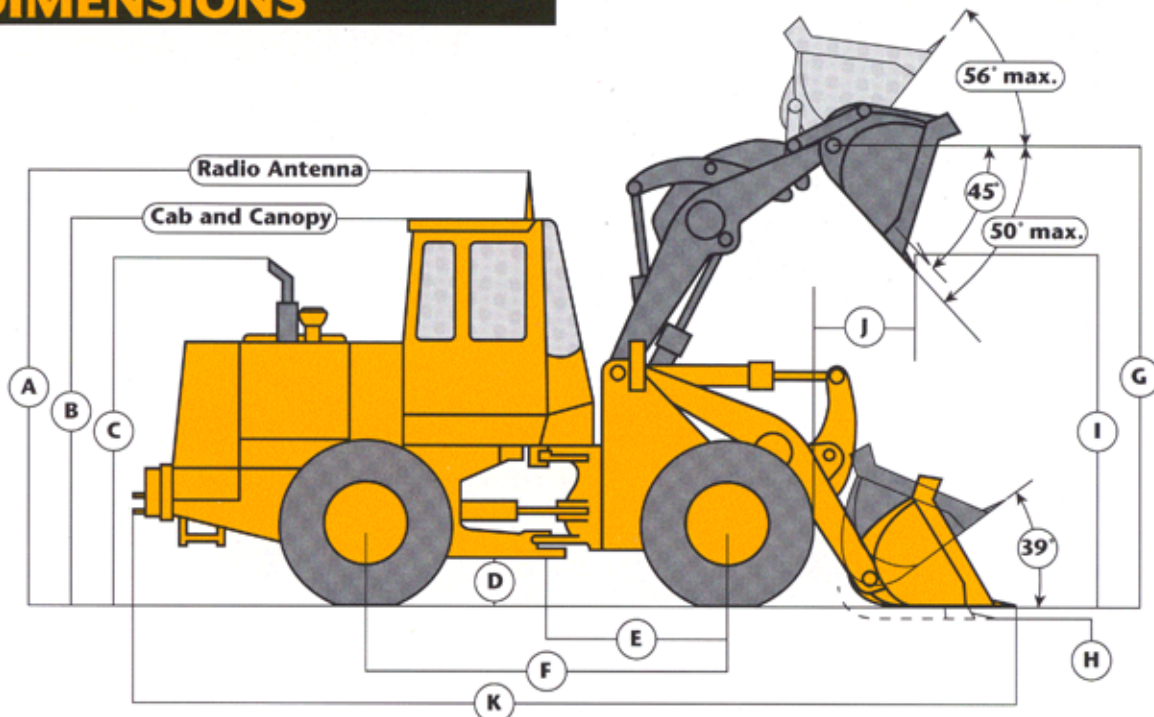
## CAPACITIES

	U.S.	
Fuel tank	75 gal.	(284 L)
Cooling system	30 qt.	(28.5 L)
Crankcase	23 qt.	(22 L)
Crankcase, including filter	25 qt.	(24 L)
Transmission case and filters	15 qt.	(14 L)
Front differential	24 qt.	(23 L)
Rear differential	24 qt.	(23 L)
Loader hydraulic sump	120 qt.	(115 L)

## OPERATING WEIGHT

See 644E Loader Operating Information and various charts.

# DIMENSIONS

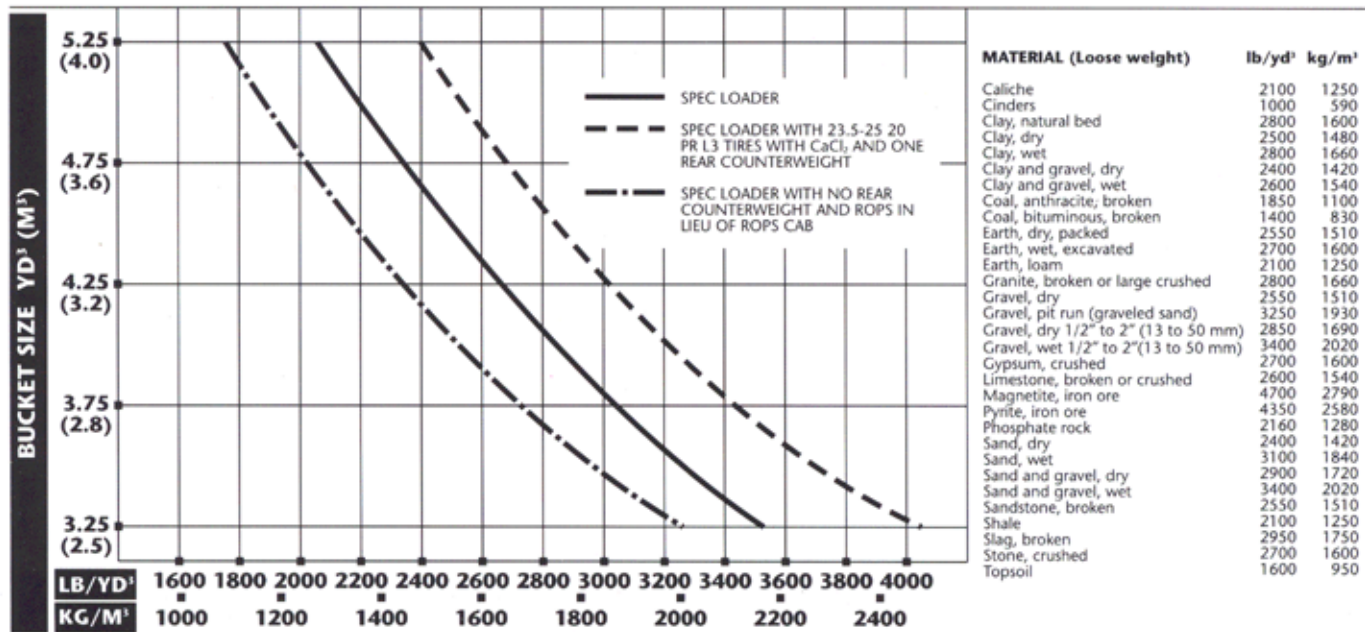


## Key:

A Overall height	14 ft. 2 in. (4.33 m)
B Height to top of cab and canopy	11 ft. 1.7 in. (3.4 m)
C Height to top of exhaust	10 ft. 4.4 in. (3.16 m)
D Ground clearance	19.7 in. (500 mm)
E Length from centerline to front axle	63 in. (1600 mm)
F Wheelbase	126 in. (3200 mm)
G Height to hinge pin – fully raised	13 ft. 1.9 in. (4.0 m)
H Digging depth	2.01 in. (51 mm)
I Dump height	} See Operating Information
J Reach bucket fully raised	
K Overall length	

TIRES	16.00-24	20.5-25	20.5 R25	23.5-25
Tread width	77.16 in. (1960 mm)	82.28 in. (2090 mm)	82.28 in. (2090 mm)	80.31 in. (2040 mm)
Width over tires	95.28 in. (2420 mm)	104.41 in. (2652 mm)	104.84 in. (2663 mm)	105.71 in. (2685 mm)
Change in vertical height	-2.75 in. (70 mm)	-2.01 in. (51 mm)	-2.44 in. (62 mm)	0

# BUCKET SELECTION GUIDE \*



\*This guide, representing bucket sizes not necessarily manufactured by Deere, will help in selecting the proper bucket size for material density and loader configuration. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment.

## 644E LOADER OPERATING INFORMATION

OPERATING INFORMATION	Bucket Type/Size	Excavating	Excav. w/ Bolt-on Edge	Excav. w/Aux. Spillguard*	Excav. w/Edge + Spillguard*	Stockpiling	Stockpile. w/ Bolt-On Edge	Stockpile. w/ Aux. Spillguard*	Stockpile. w/Edge + Spillguard*	Multi-purpose**
Capacity, heaped SAE	cu. yd. m <sup>3</sup>	3.25 2.5	3.38 2.6	3.5 2.7	3.75 2.8	3.75 2.8	3.88 3.0	3.88 3.0	4.0 3.1	2.75 2.1
Capacity, struck, SAE	cu. yd. m <sup>3</sup>	2.78 2.13	2.88 2.20	3.15 2.41	3.25 2.49	3.16 2.42	3.24 2.48	3.50 2.70	3.63 2.78	2.31 1.77
Bucket width	in. m	109.45 2.78	109.45 2.78	109.45 2.78	109.45 2.78	109.45 2.78	109.45 2.78	109.45 2.78	109.45 2.78	109.45 2.78
Breakout force, SAE J732C	lb. kN	37,073 164.9	35,173 156.5	36,980 164.5	35,084 156.1	34,251 152.4	32,567 144.9	34,161 152.0	32,478 144.5	38,488 171.2
Tipping load, straight	lb. kg	27,181 12,329	26,550 12,043	26,157 12,318	26,552 12,030	26,810 12,161	26,178 11,874	26,782 12,148	26,147 11,860	25,586 12,059
Tipping load, 40-deg. full turn, SAE	lb. kg	23,038 10,450	22,441 10,179	23,005 10,435	22,408 10,164	22,703 10,298	22,106 10,027	22,668 10,282	22,068 10,010	22,476 10,195
Tipping load, 35-deg. turn	lb. kg	23,845 10,816	23,243 10,543	23,817 10,803	23,212 10,529	23,503 10,661	22,902 10,388	23,470 10,646	22,866 10,372	23,279 10,559
Reach, 45 deg. dump, 7 ft. (2.13 m) clearance	in. mm	60.51 1537	60.43 1535	60.51 1537	60.43 1535	61.81 1570	61.69 1567	61.81 1570	61.69 1567	54.96 1396
Reach, 45 deg. dump, full height	in. mm	37.00 940	37.87 962	37.00 940	37.87 962	39.49 1003	40.39 1026	39.49 1003	40.39 1026	32.05 814
Dump clearance, 45 deg., full height	in. mm	117.12 2975	115.08 2923	117.2 2975	115.08 2923	114.61 2911	112.56 2859	114.61 2911	112.56 2859	115.87 2943
Overall length	ft.-in. m	25-2.2 7.68	25-4.9 7.75	25-2.2 7.68	25-4.9 7.75	25-5.9 7.77	25-8.7 7.84	25-5.9 7.77	25-8.7 7.84	25-0.4 7.63
Loader clearance circle, bucket carry position	ft.-in. m	41-5 12.63	41-6.8 12.67	41-5 12.63	41-6.8 12.67	41-7.3 12.68	41-9.0 12.73	41-7.3 12.68	41-9.0 12.73	41-4.1 12.60
Operating weight	lb. kg	34,108 15,471	34,502 15,650	34,227 15,525	34,621 15,704	34,262 15,541	34,657 15,720	34,381 15,595	34,776 15,774	34,600 15,694

\*Auxiliary spillguard is dealer installed. The spillguard is primarily intended to prevent spillage of loose material. However, it does increase bucket capacity which can be utilized in loose materials.

\*\*Allied equipment ordered through John Deere dealer.

Loader operating information is based on machine with all standard equipment 23.5-25, 12 PR L2 tires, one rear counterweight, ROPS cab, full fuel tank, 175-lb. (79 kg) operator. Operating information is affected by tire size, ballast and attachments. For selected items, add or subtract the following:

### Adjustments to operating weights and tipping load for 3.25 cu. yd. (2.5 m<sup>3</sup>) excavating bucket.

ADJUSTMENTS TO OPERATING WEIGHTS					
Add (+) or deduct (-) lb. (kg) as indicated for loaders with:		Operating Weight	Tipping Load Straight	Tipping Load 35 Deg. Full Turn, SAE	Tipping Load 40 Deg. Full Turn, SAE
16.00-24, 12 PR G2 tires w/o CaCl <sub>2</sub>	lb. kg	-2160 980	-1563 709	-1391 631	-1351 613
16.00-24, 12 PR G2 tires w/CaCl <sub>2</sub>	lb. kg	-811 368	-388 176	-346 157	-335 152
20.5-25, 12 PR L2 tires w/o CaCl <sub>2</sub>	lb. kg	-1587 720	-1149 521	-1021 463	-992 450
20.5-25, 12 PR L2 tires w/CaCl <sub>2</sub>	lb. kg	+234 106	+1486 674	+1323 600	+1283 582
20.5-25, 16 PR L2 tires w/o CaCl <sub>2</sub>	lb. kg	-1499 680	-1085 492	-966 438	-937 425
20.5-25, 16 PR L2 tires w/CaCl <sub>2</sub>	lb. kg	+322 146	+1550 703	+1380 626	-1338 607
20.5-25, 16 PR L3 tires w/o CaCl <sub>2</sub>	lb. kg	-1235 560	-893 405	-794 360	-772 350
20.5-25, 16 PR L3 tires w/CaCl <sub>2</sub>	lb. kg	+586 266	+1739 789	+1550 703	+1504 682
20.5-R25, One Star, L2 tires equivalent w/o CaCl <sub>2</sub>	lb. kg	-1120 508	-809 367	-721 327	-701 318
20.5-R25, One Star, L2 tires equivalent w/CaCl <sub>2</sub>	lb. kg	+701 318	+1823 827	+1623 736	+1574 714
23.5-25, 12 PR L2 tires w/CaCl <sub>2</sub>	lb. kg	+2396 1087	+3466 1572	+3084 1399	+2994 1358
23.5-25, 20 PR L3 tires w/o CaCl <sub>2</sub>	lb. kg	+494 224	+357 162	+317 144	+309 140
23.5-25, 20 PR L3 tires w/CaCl <sub>2</sub>	lb. kg	+2890 1311	+3823 1734	+3402 1543	+3303 1498
ROPS canopy in lieu of ROPS cab	lb. kg	-320 145	-304 138	-284 129	-280 127
Bucket teeth	lb. kg	+262 119	-309 140	-304 138	-302 137
Deduct one rear counterweight	lb. kg	-910 413	-2104 954	-1801 817	-1727 783
*Add second rear counterweight	lb. kg	+1138 516	+2641 1198	+2262 1026	+2169 984

\*Not to be used with CaCl<sub>2</sub>.