

# 304H 324H 344H

LOADERS

SPECIFICATIONS

CONSTRUCTION EQUIPMENT DIVISION JD



Engine	304H	324H	344H
Type	Yanmar 4TNE98 naturally aspirated direct-injection diesel; meets North American EPA and CARB non-road diesel engine emission regulations effective January 1, 1997	John Deere POWERTECH® 4045DF; meets North American EPA and CARB non-road diesel engine emission regulations effective January 1, 1997; also is certifiable to proposed E.U. (European Union) regulations, which are not yet effective	John Deere POWERTECH 4045T with turbocharger; meets North American EPA and CARB non-road diesel engine emission regulations effective January 1, 1997; also is certifiable to proposed E.U. (European Union) regulations, which are not yet effective
Rated power @ 2,400 rpm	65 SAE net hp (48 kW), 69 SAE gross hp (51 kW)	80 SAE net hp (59 kW), 84 SAE gross hp (62 kW)	98 SAE net hp (73 kW), 102 SAE gross hp (76 kW)
Cylinders	4	4	4
Displacement	202 cu. in. (3.3 L)	276 cu. in. (4.5 L)	276 cu. in. (4.5 L)
Maximum net torque	173 lb.-ft. (235 Nm) @ 1,400 rpm	223 lb.-ft. (302 Nm) @ 1,200 rpm	291 lb.-ft. (395 Nm) @ 1,400 rpm
Lubrication	pressure system with full-flow spin-on filter	pressure system with full-flow spin-on filter and cooler	pressure system with full-flow spin-on filter and cooler
Fuel consumption, typical	1.0 to 2.0 gal./hr. (3.8 to 7.6 L/h)	1.4 to 2.7 gal./hr. (5.3 to 10.2 L/h)	1.6 to 3.2 gal./hr. (6.0 to 12.1 L/h)
Cooling fan	blower type, hydraulically driven	blower type, hydraulically driven	blower type, hydraulically driven
Electrical system	12 volt with 60-amp alternator	12 volt with 65-amp alternator	12 volt with 65-amp alternator
Batteries (two 12 volt)	reserve capacity: 176 min. standard, 850 CCA; (2 batteries x 850 CCA = 1,700 CCA - optional)	reserve capacity: 176 min. standard, 850 CCA; (2 batteries x 850 CCA = 1,700 CCA - optional)	reserve capacity: 176 min. standard, 850 CCA; (2 batteries x 850 CCA = 1,700 CCA - optional)
Air cleaner	dual safety element dry type	dual safety element dry type	dual safety element dry type

## Transmission

Type	hydrostatic (HST) with infinitely variable speed control over full range of operating speeds; two speed ranges	hydrostatic (HST) with infinitely variable speed control over full range of operating speeds; two speed ranges	hydrostatic (HST) with infinitely variable speed control over full range of operating speeds; two speed ranges
Controls	low-effort electric shift; single twist-grip-type control lever for direction and range changes; HST inching pedal, which allows infinitely reduced travel speeds while maintaining full engine rpm and hydraulic flow	low-effort electric shift; single twist-grip-type control lever for direction and range changes; HST inching pedal, which allows infinitely reduced travel speeds while maintaining full engine rpm and hydraulic flow	low-effort electric shift; single twist-grip-type control lever for direction and range changes; HST inching pedal, which allows infinitely reduced travel speeds while maintaining full engine rpm and hydraulic flow
Travel speeds (two forward and two reverse)	<i>Forward and Reverse</i>	<i>Forward and Reverse</i>	<i>Forward and Reverse</i>
Speed range 1	5.6 mph (9.0 km/h)	5.3 mph (8.5 km/h)	5.2 mph (8.3 km/h)
Speed range 2	18.6 mph (30.0 km/h)	17.4 mph (28.0 km/h)	18.0 mph (28.8 km/h)

## Axles/Brakes

Final drive	heavy-duty planetary, mounted outboard	heavy-duty planetary, mounted outboard	heavy-duty planetary, mounted outboard
Differentials	conventional front and rear	limited slip front (providing self-locking torque transfer up to 45%) and conventional rear differential	limited slip front (providing self-locking torque transfer up to 45%) and conventional rear differential
Rear axle oscillation versus front	24 degrees total, stop to stop (composed of 12 degrees axle oscillation plus 12 degrees frame oscillation)	24 degrees total, stop to stop (composed of 12 degrees axle oscillation plus 12 degrees frame oscillation)	24 degrees total, stop to stop (composed of 12 degrees axle oscillation plus 12 degrees frame oscillation)
Maximum rise and fall, single wheel	12.8 in. (326 mm)	13.4 in. (340 mm)	15.3 in. (390 mm)
Brakes (conform to SAE J1473, ISO3450)			
Service brakes	dual disks, hydraulically actuated and adjustment free	dual disks, hydraulically actuated and adjustment free	dual disks, hydraulically actuated and adjustment free
Parking brake	automatically spring applied, hydraulically released disk, located at the front axle input shaft	automatically spring applied, hydraulically released disk, located at the front axle input shaft	automatically spring applied, hydraulically released disk, located at the front axle input shaft

## Hydraulic System/Steering

Pump (loader and steering)	constant-displacement gear pump; open-center system	constant-displacement gear pump; open-center system	constant-displacement gear pump; open-center system
Maximum flow @ 1,000 psi (6895 kPa)	22 gpm (82.5 L/min.) @ 2,500 rpm	30 gpm (115 L/min.) @ 2,400 rpm	30 gpm (115 L/min.) @ 2,400 rpm
Pressure	loader relief 3,046 psi (21 000 kPa, or 210 bar); steering relief 2,645 psi (18 240 kPa, or 180 bar)	loader and steering relief 3,045 psi (21 000 kPa, or 210 bar)	loader and steering relief 3,335 psi (22 990 kPa, or 230 bar)
Loader controls	pilot-operated, three-function valve with single-lever control for boom and bucket, and auxiliary lever for standard pin disconnect and auxiliary hydraulics, with control-lever lockout feature; optional four-function valve	pilot-operated, two-function valve with single-lever control and control-lever lockout feature; optional third- and fourth-function valves	pilot-operated, two-function valve with single-lever control and control-lever lockout feature; optional third- and fourth-function valves
Hydraulic cycle times	9.8 total sec.	9.7 total sec.	9.9 total sec. (with the original pump)
Raise	4.5 sec.	4.3 sec.	4.4 sec.
Dump	1.5 sec.	1.4 sec.	1.5 sec.
Lower	3.8 sec. (float down) / 3.0 sec. (power down)	4.0 sec. (float down) / 3.3 sec. (power down)	4.0 sec. (float down) / 3.0 sec. (power down)
Maximum lift capacity	with 1.1-cu. yd. (0.9 m <sup>3</sup> ) excavating bucket and teeth	with 1.4-cu. yd. (1.1 m <sup>3</sup> ) excavating bucket and teeth	with 1.75-cu. yd. (1.3 m <sup>3</sup> ) excavating bucket and teeth
Lift at ground level	12,136 lb. (5505 kg)	14,159 lb. (6422 kg)	15,075 lb. (6840 kg)
Lift at maximum height	6,966 lb. (3160 kg)	9,438 lb. (4281 kg)	9,450 lb. (4290 kg)
Steering (conforms to SAE J1511)			
Type	power, fully hydraulic articulation; meets ISO5010 and SAE J/ISO5010 secondary steering requirements	power, fully hydraulic articulation	power, fully hydraulic articulation
Relief valve setting	3,600 psi (24 850 kPa)	3,600 psi (24 850 kPa)	3,600 psi (24 850 kPa)
Articulation angle/rear wheel steering angle	56-degree articulation angle (28 degrees each direction), plus 29 degrees rear wheel steering tied mechanically to articulation; equivalent of a conventional steering system having 96 degrees of articulation	56-degree articulation angle (28 degrees each direction), plus 26 degrees rear wheel steering tied mechanically to articulation; equivalent of a conventional steering system having 97 degrees of articulation	56-degree articulation angle (28 degrees each direction), plus 27 degrees rear wheel steering tied mechanically to articulation; equivalent of a conventional steering system having 97 degrees of articulation
Turning radius (measured to center-line of outside tire)	10 ft. 8 in. (3.26 m)	12 ft. 5 in. (3.79 m)	12 ft. 10 in. (3.9 m)

### 304H Tires

	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>
405/70R20.....	62.2 in. (1580 mm)	78.0 in. (1980 mm)	0 in. (0 mm)

### 324H Tires

	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>
15.5-25, 12 PR L2.....	66.9 in. (1700 mm)	83.1 in. (2110 mm)	0 in. (0 mm)

### 344H Tires

Choice of	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>
15.5-25, 12 PR L2.....	74.4 in. (1890 mm)	90.6 in. (2300 mm)	- 1.5 in. (- 37 mm)
17.5-25, 12 PR L2.....	73.6 in. (1870 mm)	92.1 in. (2340 mm)	0 in. (0 mm)
17.5-25, XTLA (L2 type) Michelin Radial.....	73.6 in. (1870 mm)	92.1 in. (2340 mm)	- 0.3 in. (- 8 mm)

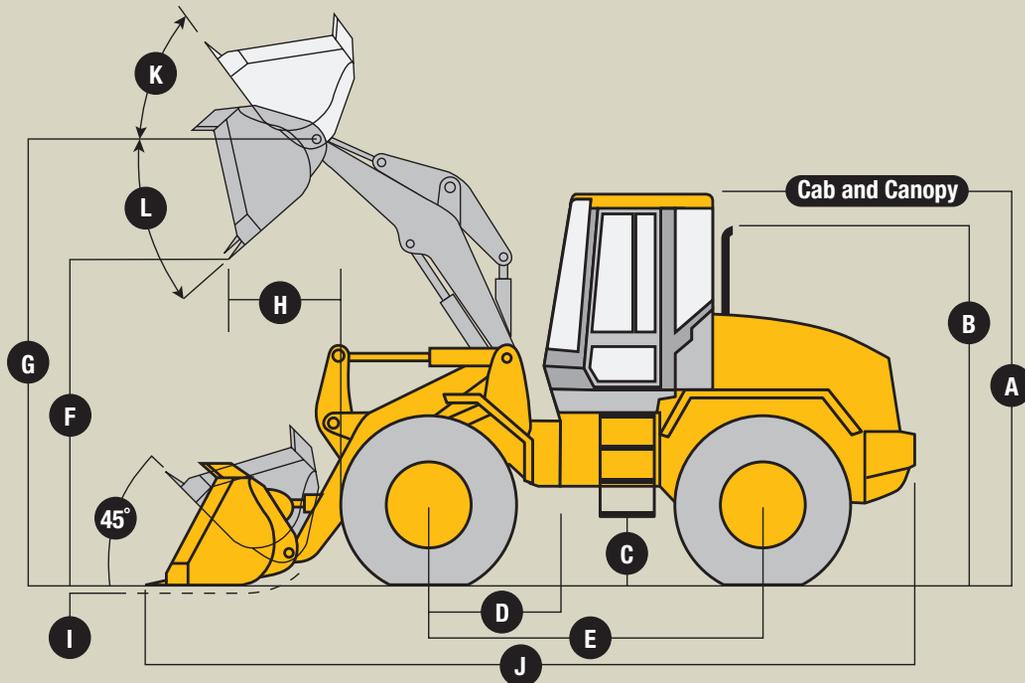
### Capacities

	<b>304H</b>	<b>324H</b>	<b>344H</b>
Fuel tank (with ground level fueling) .....	18.5 gal. (70.0 L)	37.0 gal. (140.0 L)	37.0 gal. (140.0 L)
Cooling system .....	12.9 qt. (12.2 L)	15.9 qt. (15.0 L)	18.0 qt. (17.0 L)
Engine lubrication, including full-flow spin-on filter.....	9.9 qt. (9.4 L)	13.0 qt. (12.0 L)	13.0 qt. (12.0 L)
Loader hydraulic and hydrostatic reservoir with filter.....	11.9 gal. (45.0 L)	17.2 gal. (65.0 L)	17.2 gal. (65.0 L)
Front axle (differential and planetary).....	6.0 qt. (5.7 L)	10.0 qt. (9.5 L)	11.0 qt. (10.4 L)
Rear axle (differential and HST motor gearbox).....	5.0 qt. (4.7 L)	7.4 qt. (7.0 L)	11.0 qt. (10.4 L)
Front/rear axle planetary hubs (each).....	24.0 oz. (0.7 L)	24.0 oz. (0.7 L)	27.0 oz. (0.8 L)

### Dimensions with Bucket

<b>A</b> Height to top of cab and canopy .....	9 ft. 11 in. (3025 mm)	10 ft. (3062 mm)
<b>B</b> Height to top of exhaust.....	9 ft. 3 in. (2800 mm)	9 ft. 3 in. (2823 mm)
<b>C</b> Ground clearance.....	14.0 in. (355 mm)	14.9 in. (378 mm)
<b>D</b> Length from centerline of front axle.....	41.3 in. (1050 mm)	45.3 in. (1150 mm)
<b>E</b> Wheelbase.....	98.4 in. (2500 mm)	102.4 in. (2600 mm)
<b>F</b> Dump height.....▲	▲	▲
<b>G</b> Height to hinge pin, fully raised .....	11 ft. (3343 mm)	12 ft. (3645 mm)
<b>H</b> Dump reach.....▲▲	▲▲	▲▲
<b>I</b> Maximum digging depth.....	3.0 in. (75 mm)	2.5 in. (63 mm)
<b>J</b> Overall length.....▲▲▲	▲▲▲	▲▲▲
<b>K</b> Maximum rollback at full height.....	62 degrees	63 degrees
<b>L</b> Bucket dump at full height.....	45 degrees	45 degrees

- ▲ See Bucket Information page 14.
- ▲▲ See Bucket Information page 14.
- ▲▲▲ See Bucket Information page 14.



### 304H Bucket Information (Euro Quick-Coupler)

Bucket Type/Size	Stockpiling and General Purpose w/Bolt-on Edge	Stockpiling and General Purpose w/Teeth	Excavating w/Bolt-on Edge	Excavating w/Teeth
Capacity, heaped SAE.....	1.4 cu. yd. (1.1 m <sup>3</sup> )	1.4 cu. yd. (1.1 m <sup>3</sup> )	1.2 cu. yd. (0.9 m <sup>3</sup> )	1.2 cu. yd. (0.9 m <sup>3</sup> )
Capacity, struck SAE.....	1.2 cu. yd. (0.9 m <sup>3</sup> )	1.2 cu. yd. (0.9 m <sup>3</sup> )	1.0 cu. yd. (0.8 m <sup>3</sup> )	1.0 cu. yd. (0.8 m <sup>3</sup> )
Bucket width.....	82.7 in. (2100 mm)	82.7 in. (2100 mm)	82.7 in. (2100 mm)	82.7 in. (2100 mm)
Breakout force, SAE J732C.....	10,119 lb. (4590 kg)	9,438 lb. (4281 kg)	10,583 lb. (4800 kg)	11,023 lb. (5000 kg)
Tipping load, straight.....	9,244 lb. (4193 kg)	9,330 lb. (4232 kg)	9,327 lb. (4231 kg)	9,418 lb. (4272 kg)
Tipping load, full turn, SAE.....	8,640 lb. (3919 kg)	8,721 lb. (3956 kg)	8,717 lb. (3954 kg)	8,803 lb. (3993 kg)
▲▲ Reach, 42-degree dump, 7-ft. (2.13 m) clearance.....	43.9 in. (1115 mm)	44.7 in. (1135 mm)	43.5 in. (1105 mm)	44.2 in. (1123 mm)
▲▲ Reach, 42-degree dump, full height.....	35.9 in. (913 mm)	35.5 in. (901 mm)	34.0 in. (864 mm)	33.6 in. (853 mm)
▲ Dump clearance, 42 degree, full height.....	95.3 in. (2420 mm)	96.7 in. (2457 mm)	97.0 in. (2463 mm)	98.4 in. (2500 mm)
▲▲▲ Overall length.....	17 ft. 2 in. (5240 mm)	17 ft. 4 in. (5285 mm)	17 ft. (5175 mm)	17 ft. 2 in. (5220 mm)
Loader clearance circle, bucket in carry position.....	25 ft. (7620 mm)	25 ft. 2 in. (7670 mm)	24 ft. 11 in. (7590 mm)	25 ft. (7610 mm)
Operating weight.....	12,044 lb. (5463 kg)	11,956 lb. (5423 kg)	12,015 lb. (5450 kg)	11,922 lb. (5408 kg)

Loader operating information is based on machine with all standard equipment, 405/70R20 (no fluid) tires, ROPS cab, 175-lb. (79 kg) operator, and full fuel tank. This information is affected by tire size, ballast, and different attachments.

### 324H Bucket Information (Pin-on Type)

Bucket Type/Size	Stockpiling and General Purpose w/Bolt-on Edge	Stockpiling and General Purpose w/Teeth	Excavating w/Bolt-on Edge	Excavating w/Teeth
Capacity, heaped SAE.....	1.75 cu. yd. (1.3 m <sup>3</sup> )	1.70 cu. yd. (1.3 m <sup>3</sup> )	1.40 cu. yd. (1.1 m <sup>3</sup> )	1.40 cu. yd. (1.1 m <sup>3</sup> )
Capacity, struck SAE.....	1.45 cu. yd. (1.1 m <sup>3</sup> )	1.40 cu. yd. (1.1 m <sup>3</sup> )	1.20 cu. yd. (0.9 m <sup>3</sup> )	1.20 cu. yd. (0.9 m <sup>3</sup> )
Bucket width.....	94.5 in. (2400 mm)	94.5 in. (2400 mm)	86.6 in. (2200 mm)	86.6 in. (2200 mm)
Breakout force, SAE J732C.....	16,629 lb. (7543 kg)	17,754 lb. (8053 kg)	17,754 lb. (8053 kg)	19,103 lb. (8665 kg)
Tipping load, straight.....	10,479 lb. (4753 kg)	10,595 lb. (4806 kg)	10,750 lb. (4876 kg)	10,825 lb. (4919 kg)
Tipping load, full turn, SAE.....	9,766 lb. (4430 kg)	9,877 lb. (4480 kg)	10,020 lb. (4545 kg)	10,110 lb. (4586 kg)
▲▲ Reach, 45-degree dump, 7-ft. (2.13 m) clearance.....	52.1 in. (1324 mm)	52.5 in. (1333 mm)	51.6 in. (1310 mm)	51.9 in. (1318 mm)
▲▲ Reach, 45-degree dump, full height.....	33.1 in. (842 mm)	32.5 in. (825 mm)	31.8 in. (807 mm)	31.1 in. (789 mm)
▲ Dump clearance, 45 degree, full height.....	106.2 in. (2700 mm)	108.1 in. (2746 mm)	107.7 in. (2736 mm)	109.5 in. (2782 mm)
▲▲▲ Overall length.....	19 ft. 7 in. (5965 mm)	19 ft. 10 in. (6040 mm)	19 ft. 5 in. (5915 mm)	19 ft. 8 in. (5990 mm)
Loader clearance circle, bucket in carry position.....	29 ft. 1 in. (8872 mm)	29 ft. 3 in. (8920 mm)	28 ft. 6 in. (8664 mm)	28 ft. 7 in. (8712 mm)
Operating weight.....	15,642 lb. (7095 kg)	15,520 lb. (7040 kg)	15,410 lb. (6990 kg)	15,311 lb. (6945 kg)

Loader operating information is based on machine with all standard equipment; 15.5-25, 12 PR L2 tires; standard counterweight; ROPS cab; 175-lb. (79 kg) operator; and full fuel tank. This information is affected by tire size, ballast, and different attachments.

### 344H Bucket Information (Pin-on Type)

Bucket Type/Size	Stockpiling and General Purpose w/Bolt-on Edge	Stockpiling and General Purpose w/Teeth	Excavating w/Bolt-on Edge	Excavating w/Teeth
Capacity, heaped SAE.....	2.0 cu. yd. (1.5 m <sup>3</sup> )	2.0 cu. yd. (1.5 m <sup>3</sup> )	1.7 cu. yd. (1.3 m <sup>3</sup> )	1.7 cu. yd. (1.3 m <sup>3</sup> )
Capacity, struck SAE.....	1.6 cu. yd. (1.2 m <sup>3</sup> )	1.6 cu. yd. (1.2 m <sup>3</sup> )	1.4 cu. yd. (1.1 m <sup>3</sup> )	1.4 cu. yd. (1.1 m <sup>3</sup> )
Bucket width.....	94.5 in. (2400 mm)	94.5 in. (2400 mm)	94.5 in. (2400 mm)	94.5 in. (2400 mm)
Breakout force, SAE J732C.....	16,629 lb. (7543 kg)	17,529 lb. (7951 kg)	18,204 lb. (8257 kg)	19,328 lb. (8767 kg)
Tipping load, straight.....	11,923 lb. (5408 kg)	12,039 lb. (5461 kg)	12,073 lb. (5476 kg)	12,209 lb. (5538 kg)
Tipping load, full turn, SAE.....	11,010 lb. (4994 kg)	11,127 lb. (5047 kg)	11,153 lb. (5059 kg)	11,290 lb. (5121 kg)
▲▲ Reach, 45-degree dump, 7-ft. (2.13 m) clearance.....	55.3 in. (1406 mm)	59.6 in. (1514 mm)	54.4 in. (1381 mm)	58.5 in. (1487 mm)
▲▲ Reach, 45-degree dump, full height.....	32.0 in. (814 mm)	35.3 in. (896 mm)	35.3 in. (896 mm)	33.1 in. (840 mm)
▲ Dump clearance, 45 degree, full height.....	110.8 in. (2814 mm)	108.7 in. (2761 mm)	113.0 in. (2870 mm)	110.9 in. (2817 mm)
▲▲▲ Overall length.....	20 ft. 5 in. (6217 mm)	20 ft. 8 in. (6294 mm)	20 ft. 2 in. (6137 mm)	20 ft. 5 in. (6214 mm)
Loader clearance circle, bucket in carry position.....	29 ft. 7 in. (9010 mm)	29 ft. 8 in. (9050 mm)	29 ft. 5 in. (8956 mm)	29 ft. 6 in. (9000 mm)
Operating weight.....	16,976 lb. (7700 kg)	16,876 lb. (7655 kg)	16,909 lb. (7670 kg)	16,788 lb. (7615 kg)

Loader operating information is based on machine with all standard equipment; 17.5-25, 12 PR L2 tires; standard counterweight; ROPS cab; 175-lb. (79 kg) operator; and full fuel tank. This information is affected by tire size, ballast, and different attachments.

### 344H Adjustments to Operating Weights for Pin-on Type Buckets

Adjustments to operating weights and tipping loads for 2.00-cu. yd. (1.5 m<sup>3</sup>) material-handling bucket w/bolt-on edge

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

for loaders with	Operating Weight	Tipping Load, Straight	Tipping Load, Full Turn
15.5-25, 12 PR L2 tires.....	- 485 lb. (- 220 kg)	- 311 lb. (- 141 kg)	- 291 lb. (- 132 kg)
17.5-25, XTLA (L2 type) Michelin Radial tires.....	- 9 lb. (- 4 kg)	- 7 lb. (- 3 kg)	- 7 lb. (- 3 kg)

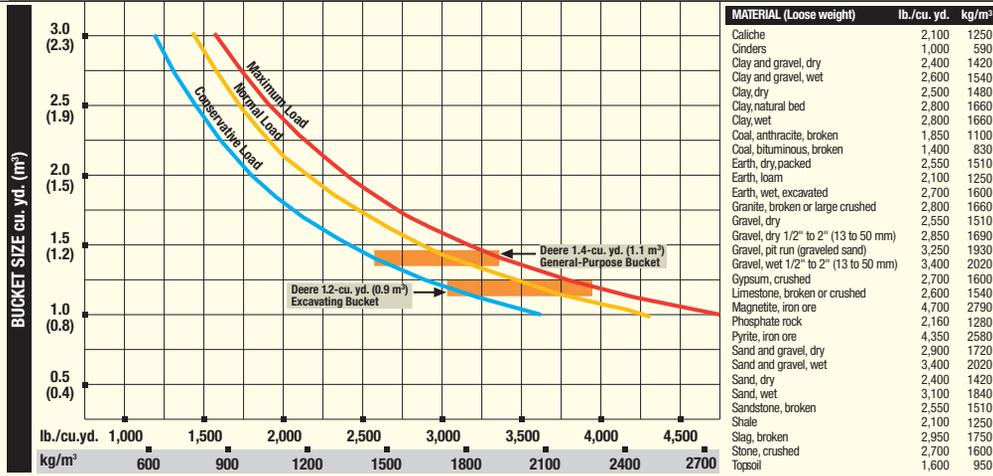
### 344H Adjustments to Operating Weights for Coupler Buckets

Adjustments to operating weights and tipping loads for 2.00-cu. yd. (1.5 m<sup>3</sup>) general-purpose bucket w/bolt-on edge

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

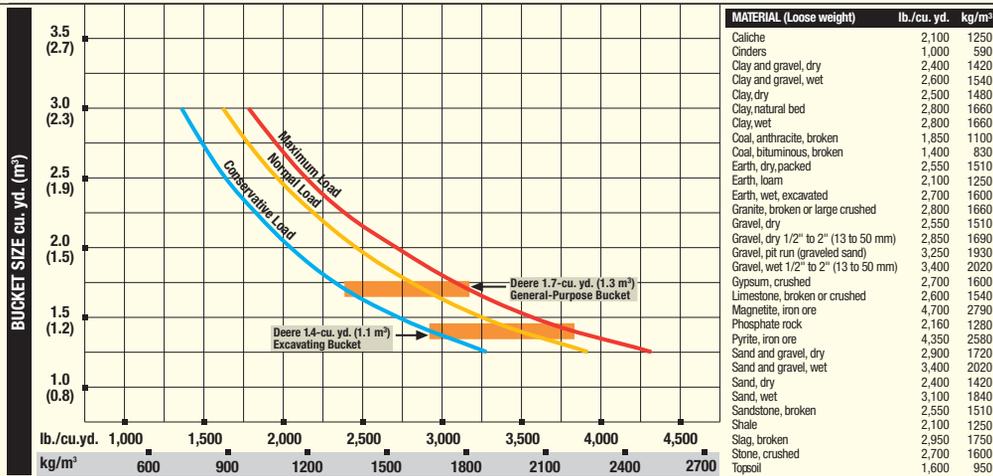
for loaders with	Operating Weight	Tipping Load, Straight	Tipping Load, Full Turn
15.5-25, 12 PR L2 tires.....	- 485 lb. (- 220 kg)	- 295 lb. (- 134 kg)	- 278 lb. (- 126 kg)
17.5-25, XTLA (L2 type) Michelin Radial tires.....	- 9 lb. (- 4 kg)	- 4 lb. (- 2 kg)	- 4 lb. (- 2 kg)

### 304H Bucket Selection Guide\*



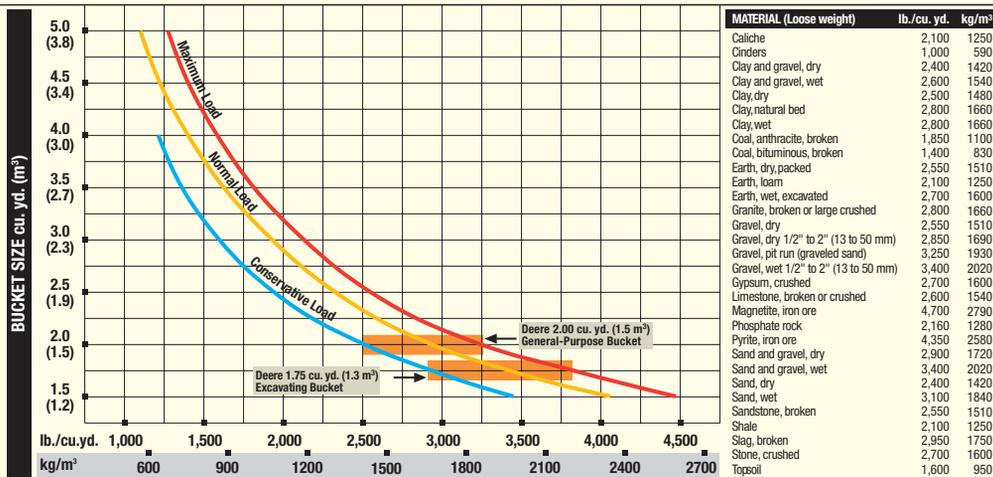
\* This guide, representing bucket sizes not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density, loader configuration, and operating conditions. Optimum bucket size is determined after adding or subtracting all tipping load changes due to optional equipment.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

### 324H 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 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.

### 344H 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 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.

**Dimensions with Quick-Coupler**

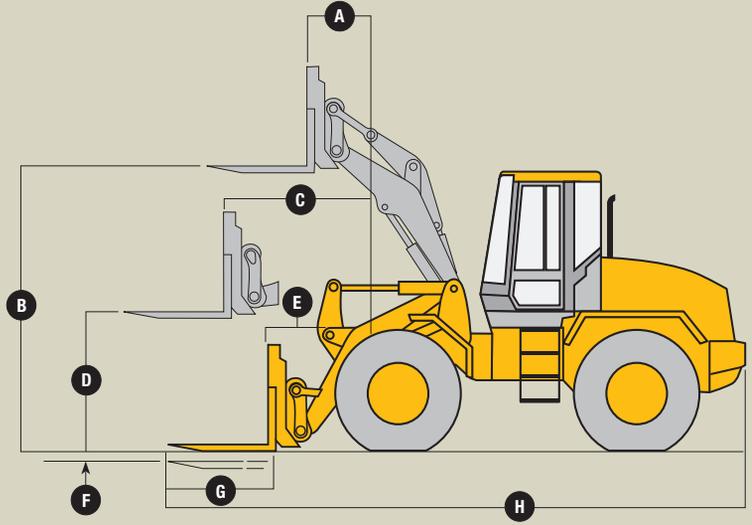
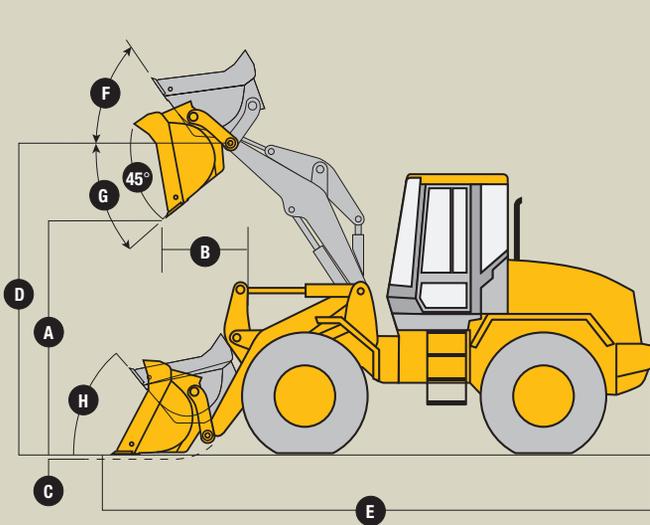
**304H**

**324H**

**344H**

**BUCKET**

<b>A</b> Dump clearance .....	▲ (see page 14)	▲ (see page 17)	▲ (see page 17)
<b>B</b> Dump reach.....	▲▲ (see page 14)	▲▲ (see page 17)	▲▲ (see page 17)
<b>C</b> Maximum digging depth .....	2.0 in. (50 mm)	3.0 in. (84 mm)	3.0 in. (83 mm)
<b>D</b> Height to hinge pin, fully raised .....	10 ft. 5 in. (3174 mm)	11 ft. 7 in. (3524 mm)	12 ft. 1 in. (3694 mm)
<b>E</b> Overall length .....	▲▲▲ (see page 14)	▲▲▲ (see page 17)	▲▲▲ (see page 17)
<b>F</b> Maximum rollback at full height.....	52 degrees	62 degrees	63 degrees
<b>G</b> Bucket dump at full height .....	42 degrees	45 degrees	45 degrees
<b>H</b> Maximum rollback at ground level.....	45 degrees	46 degrees	46 degrees



**CONSTRUCTION UTILITY FORK**

<b>A</b> Reach, fully raised .....	2 ft. 8 in. (802 mm)	2 ft. 6 in. (767 mm)
<b>B</b> Fork height, fully raised .....	10 ft. 9 in. (3264 mm)	11 ft. 3 in. (3434 mm)
<b>C</b> Maximum reach, fork level .....	5 ft. 3 in. (1603 mm)	5 ft. 6 in. (1673 mm)
<b>D</b> Fork height, maximum reach .....	5 ft. 1 in. (1543 mm)	5 ft. 2 in. (1580 mm)
<b>E</b> Reach, ground level .....	3 ft. 3 in. (990 mm)	3 ft. 6 in. (1062 mm)
<b>F</b> Depth below ground .....	4 in. (95 mm)	4 in. (94 mm)
<b>G</b> Tine length .....	▲ (see page 17)	▲ (see page 17)
<b>H</b> Overall length .....	▲▲ (see page 17)	▲▲ (see page 17)

**PALLET FORK**

<b>A</b> Reach, fully raised .....	2 ft. 4 in. (702 mm)	2 ft. 2 in. (667 mm)
<b>B</b> Fork height, fully raised .....	10 ft. 9 in. (3276 mm)	11 ft. 4 in. (3446 mm)
<b>C</b> Maximum reach, fork level .....	4 ft. 11 in. (1503 mm)	5 ft. 2 in. (1573 mm)
<b>D</b> Fork height, maximum reach .....	5 ft. 1 in. (1555 mm)	5 ft. 3 in. (1592 mm)
<b>E</b> Reach, ground level .....	2 ft. 11 in. (879 mm)	3 ft. 1 in. (951 mm)
<b>F</b> Depth below ground .....	3 in. (83 mm)	3 in. (82 mm)
<b>G</b> Tine length .....	54 in. (1370 mm)	54 in. (1370 mm)
<b>H</b> Overall length .....	22 ft. 2 in. (6750 mm)	22 ft. 9 in. (6922 mm)

### 324H Bucket Information (Quick-Coupler Type)

Bucket Type/Size	Stockpiling and General Purpose w/Bolt-on Edge	Stockpiling and General Purpose w/Bolt-on Edge
Capacity, heaped SAE.....	1.8 cu. yd. (1.3 m <sup>3</sup> )	1.4 cu. yd. (1.1 m <sup>3</sup> )
Capacity, struck SAE.....	1.4 cu. yd. (1.1 m <sup>3</sup> )	1.1 cu. yd. (0.8 m <sup>3</sup> )
Bucket width.....	95 in. (2400 mm)	95 in. (2400 mm)
Breakout force, SAE J732C.....	13,717 lb. (6222 kg)	14,568 lb. (6608 kg)
Tipping load, straight.....	9,035 lb. (4098 kg)	9,229 lb. (4186 kg)
Tipping load, full turn, SAE.....	8,265 lb. (3749 kg)	8,470 lb. (3842 kg)
▲▲ Reach, 45-degree dump, 7-ft. (2.13 m) clearance.....	54 in. (1363 mm)	53 in. (1353 mm)
▲▲ Reach, 45-degree dump, full height.....	37 in. (945 mm)	36 in. (96 mm)
▲ Dump clearance, 45 degree, full height.....	102 in. (2598 mm)	103 in. (2627 mm)
▲▲▲ Overall length.....	20 ft. (6109 mm)	19 ft. 11 in. (6068 mm)
Loader clearance circle, bucket in carry position.....	29 ft. 5 in. (8970 mm)	29 ft. 4 in. (8942 mm)
Operating weight.....	16,358 lb. (7420 kg)	15,990 lb. (7253 kg)

Loader operating information is based on machine with all standard equipment; 15.5-25, 12 PR L2 tires; standard counterweight; ROPS cab; 175-lb. (79 kg) operator; and full fuel tank. This information is affected by tire size, ballast, and different attachments.

### 324H Fork Information (Quick-Coupler Type)

	48-in. (1220 mm) Construction Utility	54-in. (1370 mm) Construction Pallet	60-in. (1525 mm) Construction Utility
▲ Tine length/fork type			
▲▲ Overall length.....	22 ft. (6708 mm)	22 ft. 2 in. (6750 mm)	23 ft. (7013 mm)
Tipping load, straight (fork level, load centered on tine).....	6,745 lb. (3060 kg)	7,212 lb. (3271 kg)	6,307 lb. (2861 kg)
Tipping load, full turn (fork level, load centered on tine).....	6,174 lb. (2800 kg)	6,637 lb. (3010 kg)	5,763 lb. (2614 kg)
Operating weight.....	16,169 lb. (7334 kg)	15,637 lb. (7093 kg)	16,264 lb. (7377 kg)

### 344H Bucket Information (Quick-Coupler Type)

Bucket Type/Size	Stockpiling and General Purpose w/Bolt-on Edge	Stockpiling and General Purpose w/Bolt-on Edge
Capacity, heaped SAE.....	2.0 cu. yd. (1.5 m <sup>3</sup> )	1.8 cu. yd. (1.3 m <sup>3</sup> )
Capacity, struck SAE.....	1.7 cu. yd. (1.3 m <sup>3</sup> )	1.4 cu. yd. (1.1 m <sup>3</sup> )
Bucket width.....	94.5 in. (2400 mm)	94.5 in. (2400 mm)
Breakout force, SAE J732C.....	14,226 lb. (6453 kg)	15,113 lb. (6855 kg)
Tipping load, straight.....	10,737 lb. (4870 kg)	10,862 lb. (4927 kg)
Tipping load, full turn, SAE.....	9,866 lb. (4475 kg)	9,989 lb. (4531 kg)
▲▲ Reach, 45-degree dump, 7-ft. (2.13 m) clearance.....	57 in. (1439 mm)	56 in. (1425 mm)
▲▲ Reach, 45-degree dump, full height.....	35 in. (897 mm)	34 in. (860 mm)
▲ Dump clearance, 45 degree, full height.....	108 in. (2732 mm)	109 in. (2768 mm)
▲▲▲ Overall length.....	20 ft. 9 in. (6333 mm)	20 ft. 7 in. (6281 mm)
Loader clearance circle, bucket in carry position.....	29 ft. 9 in. (9080 mm)	29 ft. 8 in. (9048 mm)
Operating weight.....	17,494 lb. (7935 kg)	17,405 lb. (7895 kg)

Loader operating information is based on machine with all standard equipment; 17.5-25, 12 PR L2 tires; standard counterweight; ROPS cab; 175-lb. (79 kg) operator; and full fuel tank. This information is affected by tire size, ballast, and different attachments.

### 344H Fork Information (Quick-Coupler Type)

	48-in. (1220 mm) Construction Utility	54-in. (1370 mm) Construction Pallet	60-in. (1525 mm) Construction Utility
▲ Tine length/fork type			
▲▲ Overall length.....	22 ft. 7 in. (6880 mm)	22 ft. 8 in. (6922 mm)	23 ft. 7 in. (7185 mm)
Tipping load, straight (fork level, load centered on tine).....	7,910 lb. (3588 kg)	8,387 lb. (3804 kg)	7,417 lb. (3364 kg)
Tipping load, full turn (fork level, load centered on tine).....	7,272 lb. (3299 kg)	7,745 lb. (3513 kg)	6,811 lb. (3090 kg)
Operating weight.....	17,436 lb. (7909 kg)	16,905 lb. (7668 kg)	17,531 lb. (7952 kg)

## Additional Equipment

**Key:** ● Standard equipment ▲ Optional or special equipment

\*See your John Deere dealer for further information.

### 304 324 344 Engine

- ● ● Antifreeze, -34°F (-37°C)
- ● ● Coolant recovery tank
- ● ● Fan safety guard
- ● ● Fan, sucker type, hydraulically driven, two speeds
- ● ● Muffler, under hood with curved-end exhaust stack
- ● ● Environmentally friendly engine oil drain
- ● ● Engine oil cooler
- ● ● Quick-release fuel filter and water separator
- ▲ ▲ ▲ Ether start aid (for cold starts)
- ▲ ▲ ▲ Engine coolant heater, 1,000 watts, 110 volts
- ▲ ▲ ▲ Special application: Trash screens, etc.\*

### Electrical

- ● ● Starter switch with electric fuel cutoff
- ● ● 12-volt electrical system
- ● ● Electrical load center – Blade-type fuses / Adjacent to operator's right in console
- ● ● Standard battery (1), 12 volt with 850 CCA, 176-min. rated reserve
- ▲ ▲ ▲ High-capacity batteries (2), 12 volt with 850 CCA, 176-min. rated reserve
- ● ● Master electrical disconnect switch
- ● ● Alternator, 12 volts: 60 amp on 304H, 65 amp on 324H and 344H
- ● ● Horn (conforms to SAE J994, J1446)
- ● ● Lights (conform to SAE 99): Driving, turn signals, flashers, stop, and taillights
- ● ● Pre-wired for front and rear work lights
- ▲ ▲ ▲ Work lights, front (2) and rear (2)
- ● ● Reverse warning alarm (conforms to SAE J994, J1446)
- ● ● Multifunction monitor with audible and visual warnings:
  - Low engine oil pressure / Engine coolant temperature / Transmission oil temperature / Parking brake indicator
- Gauges and indicators: Engine coolant temperature gauge / Fuel level gauge / Speedometer / Clock / Hourmeter
- Operator warning lights: Engine air filter / Battery voltage / Fasten seat belt / Parking brake applied / Forward/reverse travel direction / 1st speed range or 2nd speed range / Turn signal indicator and hazard / High-beam driving lights
- ● ● Radio-ready cab, fused 12-volt radio electrical lead and speakers
- ● ● Pre-wired for roof beacon

### 304 324 344 Power Train/Brakes

- ● ● Hydrostatic (HST) transmission, electronic shift control, twist-grip lever, hydrostatic oil cooler, inching pedal, and two speeds forward and reverse
- ● ● Spring-applied, hydraulically released parking brake, switch operated
- ● ● Conventional front and rear
- ● ● Conventional-type differential rear, limited-slip front with 45% locking valve

### Hydraulic System

- ● ● Hydraulic system oil cooler
- ● ● Automatic bucket return-to-dig control
- ● ● Automatic boom height knockout control
- ● ● Reservoir sight gauge
- ● ● Fine micron hydraulic filters, vertical mounting
- ● ● Hydraulic lever lockout
- ● ● Pilot-operated three-function valve with single joystick lever control for boom and bucket, and auxiliary lever for standard pin disconnect and auxiliary hydraulics
- ● ● Two-function hydraulic valve with pilot joystick control
- ▲ ▲ Three-function hydraulic valve with pilot joystick control and pilot auxiliary lever for third function
- ▲ ▲ ▲ Four-function hydraulic valve with pilot joystick control and pilot auxiliary lever for third function, and switch for fourth function
- ▲ ▲ ▲ Hydraulic conversion kits, four-function valve
- ▲ ▲ ▲ Hydraulic conversion kits, three-function valve and four-function valve
- ● ● Quick-coupler diagnostic ports: Priority pressure, hydraulic pump pressure, control valve pressure, and HST pressure

### Tires

- 405/70R20
- ▲ 15.5-25, 12 PR L2
- 17.5-25, 12 PR L2
- ▲ 17.5-25, XLTA (L2 type) Michelin Radial

### Operator's Station

- ● ● Cab (conforms to SAE J1040 APR88): ROPS/FOPS, heater/defroster, rubber-plane isolation mounted for noise/vibration reduction, intermittent front and rear windshield wipers and washers, tinted safety glass, full-width adjustable sun visor, pre-wired for radio speakers, deluxe high-back cloth seat with mechanical suspension and 2-inch (51 mm)

### 304 324 344 Operator's Station (continued)

- retractable seat belt, left and right doors, one sliding window in each door
- ▲ ▲ ▲ Canopy (conforms to SAE J1040 APR88): ROPS/FOPS, rubber-plane isolation mounted for noise/vibration reduction, deluxe high-back vinyl seat with mechanical suspension and 2-inch (51 mm) retractable seat belt
- ▲ ▲ ▲ Air conditioning (factory or dealer installed)
- ▲ ▲ ▲ Seat belt, 3-in. (76 mm), with retractor
- ● ● Storage compartment for operator's manual and other items
- ● ● Rubber floormat
- ● ● Tilt steering column
- ● ● Rearview mirrors, outside (2) and inside (1) (conform to SAE J985)
- ● ● Handholds and steps, ergonomically located and slip resistant (conform to SAE J185)

### Loader Linkage

- ● ● Z-bar loader linkage provides "high bucket breakout"
- ● ● Loader boom service locking bar (conforms to SAE J38)

### Buckets and Attachments

- ▲ ▲ ▲ Full line of buckets with selection of bolt-on cutting edges and teeth
- Standard quick coupler
- ▲ ▲ ▲ Quick coupler which accepts JRB attachments\*
- ▲ ▲ ▲ Full line of construction utility forks, pallet forks, extendible boom with hook, and other attachments\*

### Other

- ● ● Fenders, front and rear
- ● ● Articulation locking bar (conforms to SAE J276)
- ● ● Vandal protection, includes lockable engine enclosure and fuel fill
- ● ● Counterweight, built-in
- ● ● Rear bottom guard, built-in
- ● ● Drawbar, with locking pin
- ▲ ▲ ▲ Lift eyes
- ● ● Tie-downs
- ▲ ▲ ▲ Fire extinguisher
- ▲ ▲ ▲ License plate bracket
- ▲ ▲ Secondary steering (304H meets ISO5010 and SAE J/ISO5010 secondary steering requirements)
- ▲ ▲ ▲ Material weighing system\*

## Control Owning and Operating Costs

Total Repair Cost Management (TRCM) is part of John Deere's proactive, fix-before-fail strategy on machine maintenance that will help control costs, increase profits, and reduce stress. Included in this comprehensive lineup of ongoing programs and services are:

**OilScan® Plus program** – tells you what's going on inside *all* of your machine's major components so you'll know if there's a problem *before* you see a decline in performance. OilScan Plus oil analysis is included in most SECURE®-Extended warranty and preventive-maintenance agreements.

**Component life-cycle data** – gives you vital information on the projected life span of components and lets you make informed decisions on machine maintenance by telling you approximately how many hours of use you can expect from an engine, transmission, or hydraulic pump. This information can be used to pre-empt catastrophic downtime by servicing major components at about 80 percent of their life cycle.

**Preventive Maintenance (PM) agreements** – give you a fixed cost for maintaining a machine for a given period of time. They also help you avoid downtime by ensuring that critical maintenance work gets done right and on schedule. On-site preventive maintenance service performed where and when you need it helps protect you from the expense of catastrophic failures and lets you avoid waste-disposal hassles.

**SECURE-Extended warranty** – gives you a fixed cost for machine repairs for a given period of time so you can effectively manage costs. Whether you work in a severe-service setting or just want to spread the risk of doing business, this is a great way to custom-fit coverage for your operation. And a SECURE-Extended contract also travels well because it's backed by John Deere and is honored by *all* Deere construction dealers.

**Customer Support Advisors (CSAs)** – Deere believes the CSA program lends a *personal* quality to Total Repair Cost Management. Certified CSAs have the knowledge and skills for helping make important decisions on machine maintenance and repair. Their mission is to help you implement a plan that's right for *your* business and take the burden of machine maintenance off your shoulders.

Net engine power is with standard equipment including air cleaner, exhaust system, alternator, and cooling fan, at standard conditions per SAE J1349 and DIN 70 020, using No. 2-D fuel at 35 API gravity. No derating is required up to 5,000 feet (1500 m) altitude for the 304H and 324H and up to 10,000 feet (3050 m) altitude for the 344H. Gross power is without cooling fan.

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE standards. Except where otherwise noted, these specifications are based on units with all standard equipment, ROPS cabs, full fuel tanks, and 175-lb. (79 kg) operators: 304H unit with 405/70R20 (no fluid) tires; 324H unit with 15.5-25, 12 PR L2 tires and standard rear counterweight; and 344H unit with 17.5-25, 12 PR L2 tires and standard rear counterweight.

