



# 624E-H LOADER

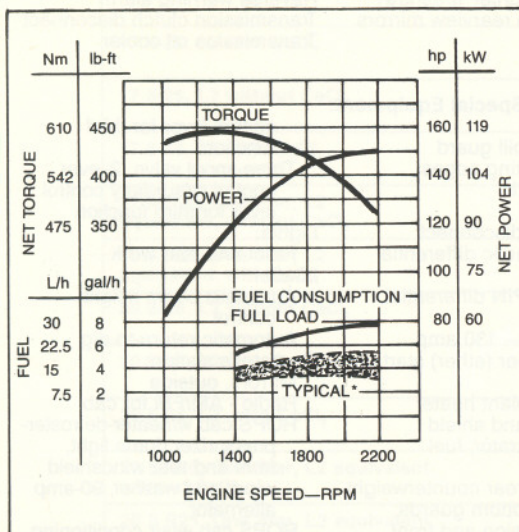
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Model shown may include options

## ENGINE PERFORMANCE



\* Depending on operating variables

## FEATURES

150 SAE net hp (112 kW) John Deere turbocharged diesel engine

Four-wheel drive

3.00 or 3.25 cu. yd. (2.3 or 2.5 m<sup>3</sup>) general purpose buckets or 2.5 cu. yd. (1.9 m<sup>3</sup>) multipurpose bucket

Single phase, single stage torque converter with countershaft Power Shift transmission, 4 speeds forward, 3 reverse

Power steering. Articulated frame

Four-wheel wet-disk power brakes and parking brake

Inboard planetary final drives

Single-lever or optional 2-lever loader control w/optional automatic return-to-dig and optional boom height control

Optional front-axle hydraulic differential lock or NoSPIN front differential

Optional vandal protection

Rollover protective structure (ROPS) with canopy. Meets criteria of SAE J394a, SAE J1040 APR88, OSHA 1926.1001 and ISO 3471. Also meets FOPS (falling object protective structure) criteria SAE J231 JAN81 and ISO 3449.

## ADD VERSATILITY WITH:

- Auxiliary bucket spill guard
- Auxiliary bucket skid shoes
- Bucket teeth
- Bolt-on cutting edge
- Coupler system
- Forks
- Side-dump bucket
- Snow plows
- Special buckets

# 624E-H LOADER SPECIFICATIONS

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE Standards. Except where otherwise noted, specifications are based on a machine with all standard equipment, 20.5-25, 12 PR, L3 tires, L3 tires, ROPS cab, lift hooks, two batteries, full fuel tank, and 175-lb. (80 kg) operator.

<b>Rated Power @ 2200 engine rpm:</b>	<b>SAE</b>	<b>DIN 70 020</b>
Net .....	150 hp (112 kW)	112 kW
Gross .....	156 hp (116 kW)	

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 @ 35 API gravity. No derating is required up to 10,000 feet (3050 m) altitude. Gross power is without cooling fan.

## Engine: John Deere 6414T

Type .....	4-stroke cycle, turbocharged diesel
Bore and stroke .....	4.19 x 5.00 in. (106.5 x 127 mm)
No. of cylinders .....	6
Displacement .....	414 cu. in. (6.785 L)
Maximum net torque @ 1400 rpm .....	448 lb-ft (607 Nm) (61.9 kg-m)
Cooling fan .....	Blower
Air cleaner w/restriction indicator .....	Dry type
Electrical system .....	12 volt w/65 amp alternator
Batteries (two 12 volt)	
25 amps at 80°F (27°C) .....	Reserve capacity: 160 min. each
BCI group 31 cold cranking capacity at 0°F (-18°C) .....	625 amp

## Torque Converter:

Type .....	Single phase, single stage
Torque multiplication .....	3.12 to 1

## Transmission .....

## Forward Speeds:

	mph (max.)	km/h (max.)
1 .....	4.8	7.8
2 .....	8.0	12.8
3 .....	16.0	25.8
4 .....	25.4	40.9

## Reverse Speeds:

1 .....	4.8	7.8
2 .....	8.0	12.8
3 .....	16.0	25.8

## Differentials — choice of:

- Front and rear conventional
- Front hydraulic differential lock and rear conventional
- Front NoSPIN and rear conventional

## Drive Axles .....

Inboard-mounted planetary gears to each wheel. Front axle fixed. Rear axle oscillates 26 degrees total (34.5 in. [876 mm] vertical travel at center of tire).

## Steering .....

- Full power steering. Frame articulated 80 degrees by two hydraulic cylinders.
- Turning radius (measured to centerline of outside tire) .....
- 16 ft. 9 in. (5.11 m)
- Cylinder size: Stroke .....
- 19.3 in. (491 mm)
- Bore .....
- 3.15 in. (80 mm)
- Rod diameter .....
- 1.77 in. (45 mm)

## Brakes:

- Service .....
- Power-actuated, 4-wheel inboard-mounted, wet disk. Foot-operated by either pedal.
- Parking .....
- 9.84 x 2.36 in. (250 x 60 mm) expanding shoe on transmission output shaft, foot-operated.
- Includes transmission disconnect with two-level monitor warning.

## Hydraulic Systems:

- Steering and loader functions .....
- An engine-driven gear-type pump delivers 57.0 gpm (216 L/min) at 600 psi (4137 kPa) (42.2 kg/cm<sup>2</sup>) and 2200 engine rpm. Loader function relief valve pressure setting is 2800 psi (19 306 kPa) (196.8 kg/cm<sup>2</sup>). Maximum steering pressure is 2600 psi (17 927 kPa) (182.7 kg/cm<sup>2</sup>).
- Control ... Single-lever or optional two-lever, dual hydraulic valve. Optional triple hydraulic valve for fork or multipurpose bucket.
- Brakes .....
- Engine-driven gear-type pump delivers 8.1 gpm (31 L/min) at 2200 engine rpm and 600 psi (4137 kPa) (42.2 kg/cm<sup>2</sup>). Maximum system pressure is 2300 psi (15 859 kPa) (161.7 kg/cm<sup>2</sup>).
- Loader hydraulic operating cycle times at full throttle:
- Raise .....
- 5.8 sec.
- Dump .....
- 1.7 sec.
- Lowering: float .....
- 3.5 sec.
- power .....
- 4.3 sec.
- Maximum lift capacity with 3.0 cu. yd. (2.3 m<sup>3</sup>) general purpose bucket:
- Maximum height .....
- 13,314 lb. (6039 kg)
- Ground level .....
- 24,745 lb. (11 224 kg)

## Hydraulic Cylinders:

	Bore	Stroke
Boom, two .....	5.50 in. (140 mm)	28.58 in. (726 mm)
Bucket, one .....	6.3 in. (160 mm)	23.75 in. (603 mm)
Cylinder rods .....		Ground, heat-treated, chrome-nickel-plated, polished
Boom cylinder rods .....	2.48 in. (63 mm) dia.	
Bucket cylinder rod .....	3.15 in. (80 mm) dia.	

## Tires — choice of:

- 17.5-25, 12 PR, loader tread, L2
- 17.5-25, 12 PR, rock tread, L3
- 17.5 R25, One Star, L2 equivalent
- 20.5-25, 12 PR, loader tread, L2
- 20.5-25, 12 PR, rock tread, L3
- 20.5 R25, One Star, L2 equivalent

## Capacities:

	U.S.	Liters
Fuel tank .....	55 gal.	208
Cooling system .....	26 qt.	25
Crankcase .....	18 qt.	17
Crankcase, including filter .....	20 qt.	19
Transmission case and filters .....	12 qt.	11
Front differential .....	24 qt.	23
Rear differential .....	17 qt.	16
Loader hydraulic sump .....	108 qt.	102

## Additional Standard Equipment:

- Differential, conventional, front and rear
- Engine:
- Antifreeze
- Dry type air cleaner with dust valve
- Fan guard
- Fuel filter
- Heavy duty battery package w/two batteries
- Muffler
- Frames:
- Articulation transport lock
- Drawbar
- Lift hooks
- Lockable engine side shields and rear grille
- Rear bottom guard
- Service step, left-hand rear
- Standard counterweight-946 lb (429 kg)
- Hydraulic oil cooler
- Lights:
- Driving w/guard
- Flashing and turn signal
- Stop and tail
- Operator's station:
- Adjustable, deluxe vinyl seat
- Cigarette lighter w/ashtray
- Dual inside rearview mirrors
- Dual level monitor system:
- Two level warnings:
- Parking brake on
- Single-level warnings:
- Air filter restricted
- Engine coolant temperature
- Hydraulic filter restricted
- Low brake pressure
- Low electrical voltage
- Low engine oil pressure
- Low transmission oil pressure
- Secondary steering (optional)
- Indicator only:
- Turn signals
- Floor mat
- Handgrips
- Horn
- Instruments:
- Electric hourmeter
- Fuel gauge
- Transmission oil temperature gauge
- Key switch
- ROPS canopy
- Two-inch (51 mm) seat belt w/retractor
- Reverse warning alarm
- Transmission clutch disconnect
- Transmission oil cooler

## Optional or Special Equipment:

- Buckets:
- Auxiliary spill guard
- Bolt-on cutting edges
- Bucket teeth
- Differentials:
- Front axle disconnect
- Front hydraulic differential lock
- Front NoSPIN differential
- Engine:
- Alternator — 130 amp
- Cold weather (ether) starting aid
- Engine coolant heater
- Radiator sand shield
- Water separator, fuel
- Frames:
- Additional rear counterweight
- Auxiliary bottom guards, transmission and front frame
- Fenders, front or rear
- License plate bracket
- Steps, frame mounted
- SMV emblem
- Transmission side frame guards
- Hydraulics:
- Two-spool valve w/single-lever control
- Two-spool valve w/two-lever control
- Three-spool valve, single-lever control w/auxiliary control lever for third function
- Lights:
- Front and rear work
- Loader:
- Automatic boom height control
- Automatic return-to-dig
- Operator's station:
- Mirrors, outside
- Radio - AM/FM for cab
- ROPS cab w/heater-defroster-pressurizer dome light, front and rear windshield wiper and washer, 90-amp alternator
- ROPS cab w/air conditioning, heater/defroster/pressurizer, dome light, front and rear windshield wiper and washer, 90-amp alternator
- Seats:
- Adjustable deluxe suspension vinyl seat w/armrests
- Adjustable deluxe suspension cloth seat w/armrests for cab
- Secondary steering
- Three-inch (76 mm) seat belt w/o retractor

## 624E-H LOADER OPERATING INFORMATION — BUCKETS

OPERATING INFORMATION	BUCKET TYPE		
	General Purpose	General Purpose w/Bolt-on Edge + Spillguard*	Multipurpose**
Capacity, heaped, SAE	3.00 cu. yd. (2.3 m <sup>3</sup> )	3.25 cu. yd. (2.5 m <sup>3</sup> )	2.5 cu. yd. (1.9 m <sup>3</sup> )
Capacity, struck, SAE	2.63 cu. yd. (2.0 m <sup>3</sup> )	3.00 cu. yd. (2.3 m <sup>3</sup> )	2.09 cu. yd. (1.6 m <sup>3</sup> )
Bucket width	101.77 in. (2.58 m)	101.77 in. (2.58 m)	108.00 in. (2.74 m)
Breakout force, SAE J732C	27,593 lb. (122.7 kN) (12 516 kg)	25,671 lb. (114.2 kN) (11 644 kg)	26,826 lb. (119.3 kN) (12 168 kg)
Tipping load, straight	21,290 lb. (9657 kg)	20,675 lb. (9378 kg)	19,268 lb. (8740 kg)
Tipping load, 40 deg. full turn, SAE	18,045 lb. (8185 kg)	17,458 lb. (7919 kg)	16,219 lb. (7357 kg)
Reach at 45-deg. dump, 7 ft. (2.13 m) clearance	58.94 in. (1497 mm)	59.06 in. (1500 mm)	57.87 in. (1470 mm)
Reach at 45-deg. dump, full height	37.05 in. (941 mm)	38.46 in. (977 mm)	36.81 in. (935 mm)
Dump clearance at 45-deg. dump, full height	113.1 in. (2872 mm)	110.6 in. (2809 mm)	111.46 in. (2831 mm)
Overall length	24 ft. 3.5 in. (7.40 m)	24 ft. 6.9 in. (7.49 m)	24 ft. 6.6 in. (7.48 m)
Loader clearance circle bucket in carry position	39 ft. 3.4 in. (11.97 m)	39 ft. 5.6 in. (12.03 m)	39 ft. 11.5 in. (12.18 m)
Operating weight	27,913 lb. (12 661 kg)	28,402 lb. (12 883 kg)	28,711 lb. (13 023 kg)

\*Auxiliary spillboard 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 material.

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

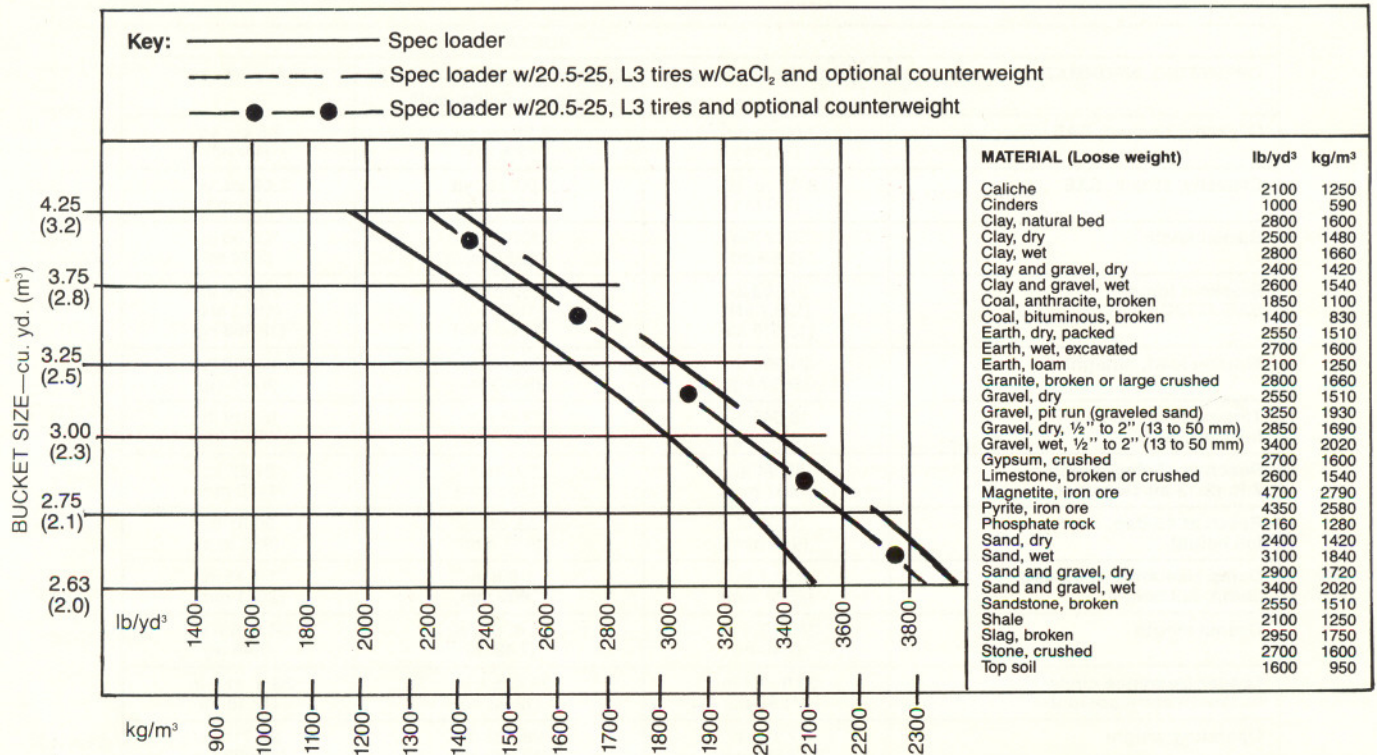
Loader operating information is based on machine with all standard equipment, 20.5-25, 12 PR, L3 tires, two batteries, lift hooks, ROPS cab, full fuel tank and 175-lb. (80 kg) operator. Operating information is affected by tire size, ballast and attachments. For selected items, add or subtract the following:

### Adjustments to operating weights and tipping loads for 3.0 cu. yd. (2.3 m<sup>3</sup>) general purpose bucket.

Add (+) or deduct (-) lb. (kg) as indicated for machines with:	Loader Operating Weight	Straight	Full Turn
17.5-25, L2 without CaCl <sub>2</sub>	-1085 lb. (492 kg)	-756 lb. (343 kg)	-653 lb. (296 kg)
17.5-25, L2 with CaCl <sub>2</sub>	+95 lb. (43 kg)	+886 lb. (402 kg)	+767 lb. (348 kg)
17.5-25, L3 without CaCl <sub>2</sub>	-952 lb. (432 kg)	-664 lb. (301 kg)	-573 lb. (260 kg)
17.5-25, L3 with CaCl <sub>2</sub>	+227 lb. (103 kg)	+979 lb. (444 kg)	+847 lb. (384 kg)
17.5 R25, One Star, L2 equivalent, without CaCl <sub>2</sub>	-705 lb. (320 kg)	-492 lb. (223 kg)	-423 lb. (192 kg)
17.5 R25, One Star, L2 equivalent, with CaCl <sub>2</sub>	+474 lb. (215 kg)	+1151 lb. (522 kg)	+994 lb. (451 kg)
20.5-25, L2 without CaCl <sub>2</sub>	-291 lb. (132 kg)	-203 lb. (92 kg)	-174 lb. (79 kg)
20.5-25, L2 with CaCl <sub>2</sub>	+1530 lb. (694 kg)	+2332 lb. (1058 kg)	+2017 lb. (915 kg)
20.5-25, L3 with CaCl <sub>2</sub>	+1821 lb. (826 kg)	+2535 lb. (1150 kg)	+2191 lb. (994 kg)
20.5 R25, One Star, L2 equivalent, without CaCl <sub>2</sub>	+176 lb. (80 kg)	+121 lb. (55 kg)	+106 lb. (48 kg)
20.5 R25, One Star, L2 equivalent, with CaCl <sub>2</sub>	+1997 lb. (906 kg)	+2659 lb. (1206 kg)	+2297 lb. (1042 kg)
ROPS canopy in lieu of ROPS cab	-320 lb. (145 kg)	-295 lb. (134 kg)	-273 lb. (124 kg)
Bucket teeth	+240 lb. (109 kg)	-284 lb. (129 kg)	-278 lb. (126 kg)
***Optional counterweight	+935 lb. (424 kg)	+2077 lb. (942 kg)	+1706 lb. (774 kg)
Add rear fenders	+143 lb. (65 kg)	+209 lb. (95 kg)	+181 lb. (82 kg)

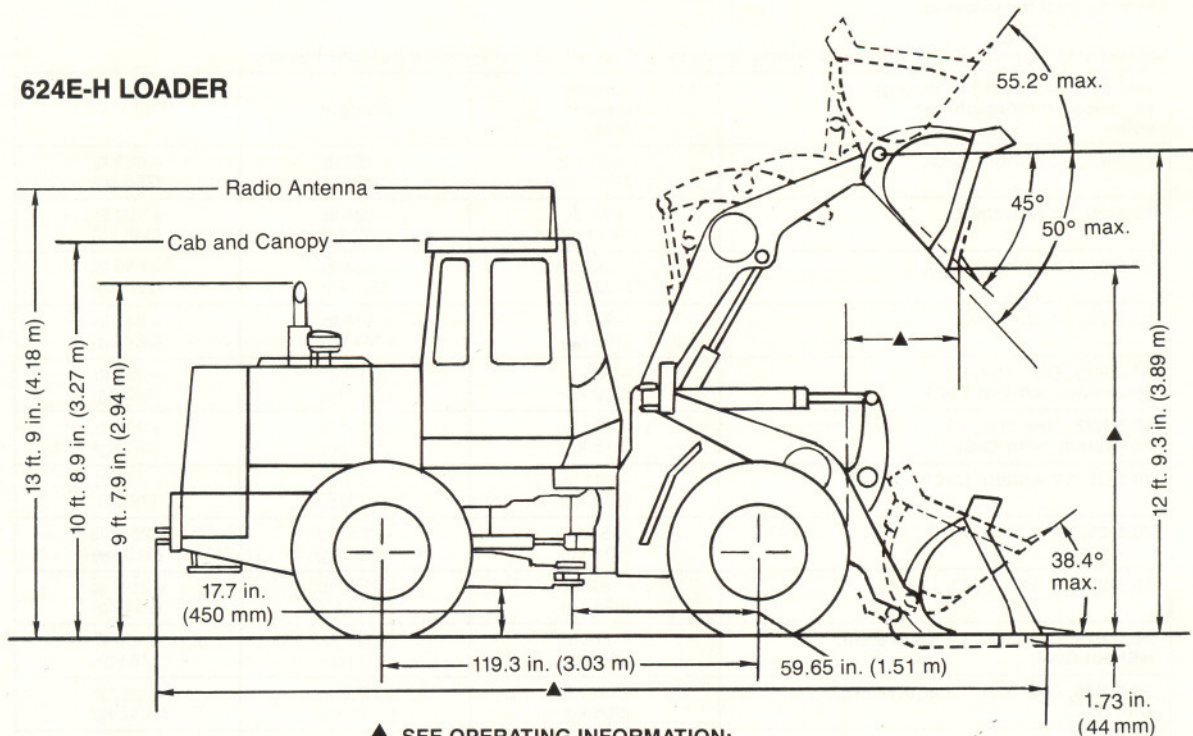
\*\*\*Not to be used with CaCl<sub>2</sub>

# 624E-H BUCKET SELECTION GUIDE\*



\*This guide, representing buckets not necessarily manufactured by Deere, will help you in selecting proper bucket size for material density and loader configurations. However, specific bucket size should only be determined after adding or subtracting all the tipping load changes due to specifications.

## 624E-H LOADER



▲ SEE OPERATING INFORMATION:

	TIRES	
	17.5-25	20.5-25
Tread width .....	78.74 in. (2000 mm)	74.80 in. (1900 mm)
Width over tires .....	97.99 in. (2489 mm)	96.93 in. (2462 mm)
Change in vertical height .....	-2.36 in. (60.0 mm)	0

