



**JOHN DEERE**

MATERIAL-HANDLING EQUIPMENT

LOADERS



MODEL NO.

**304H WASTE HANDLER**



**WASTE HANDLER**

# 304H WASTE HANDLER

LOADER

SPECIFICATIONS



## Engine

### 304H

Type .....	Yanmar 4TNE98 naturally aspirated direct-injection diesel; meets North American EPA and CARB non-road diesel engine emission regulations effective January 1, 1997
Rated power .....	.65 SAE net hp (48 kW) / 69 SAE gross hp (51 kW) @ 2,400 rpm
Cylinders .....	4
Displacement .....	.202 cu. in. (3.3 L)
Maximum net torque .....	.173 lb.-ft. (235 Nm) @ 1,400 rpm
Lubrication .....	pressure system with full-flow spin-on filter
Fuel consumption, typical .....	1.0 to 2.0 gal./hr. (3.8 to 7.6 L/h)
Cooling fan .....	blower type, hydraulically driven, reversible
Electrical system .....	12 volt with 60-amp alternator
Batteries (two 12 volt) .....	.850 CCA; reserve capacity: 176 min. – standard (two batteries x 850 CCA = 1,700 CCA – optional)
Air cleaner .....	dual safety element dry type; restriction indicator for service

## Transmission

Type .....	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
Travel speeds (two forward and two reverse) .....	<i>Forward and Reverse</i>
Speed range 1 .....	.5.6 mph (9.0 km/h)
Speed range 2 .....	.18.6 mph (30.0 km/h)

## Axles

Final drives .....	heavy-duty planetary, mounted outboard
Differentials .....	conventional front and rear
Rear axle oscillation versus front, stop to stop .....	.24 degrees total (composed of 12 degrees axle oscillation plus 12 degrees frame oscillation)
Maximum rise and fall, single wheel .....	.12.8 in. (326 mm)

## Brakes (conforms to SAE J1473, ISO3450)

Service brakes .....	dual discs, hydraulically actuated and adjustment free
Parking brake .....	automatically spring applied, hydraulically released disc, located at the front axle input shaft

## Hydraulic System

Pump (loader and steering) .....	constant-displacement gear pump; open-center system
Maximum flow .....	.22 gpm (82.5 L/min.) @ 1,000 psi (6895 kPa) and 2,500 rpm
Pressure .....	loader relief 3,046 psi (21 000 kPa, or 210 bar); steering relief 2,610 psi (17 995 kPa, or 180 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
Hydraulic cycle times	
Raise .....	.4.5 sec.
Dump .....	.1.5 sec.
Lower .....	.3.8 sec. (float down) / 3.0 sec. (power down)
Total .....	.9.8 sec.

## Steering (conforms to SAE J1511)

Type .....	power, fully hydraulic articulation; meets ISO5010 and SAE J/ISO5010 secondary steering requirements
Pressure .....	2,610 psi (17 995 kPa) relief
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
Turning radius (measured to centerline of outside tire) .....	.10 ft. 8 in. (3260 mm)

## Tires

	<i>Tread Width</i>	<i>Width Over Tires</i>	<i>Change In Vertical Height</i>
40 x 14-16, 24-ply aircraft .....	64.0 in. (1626 mm)	78.0 in. (1980 mm)	0 in. (0 mm)
405/70R 20 (no fluid) .....	62.2 in. (1580 mm)	78.0 in. (1980 mm)	+ 1.0 in. (25 mm)

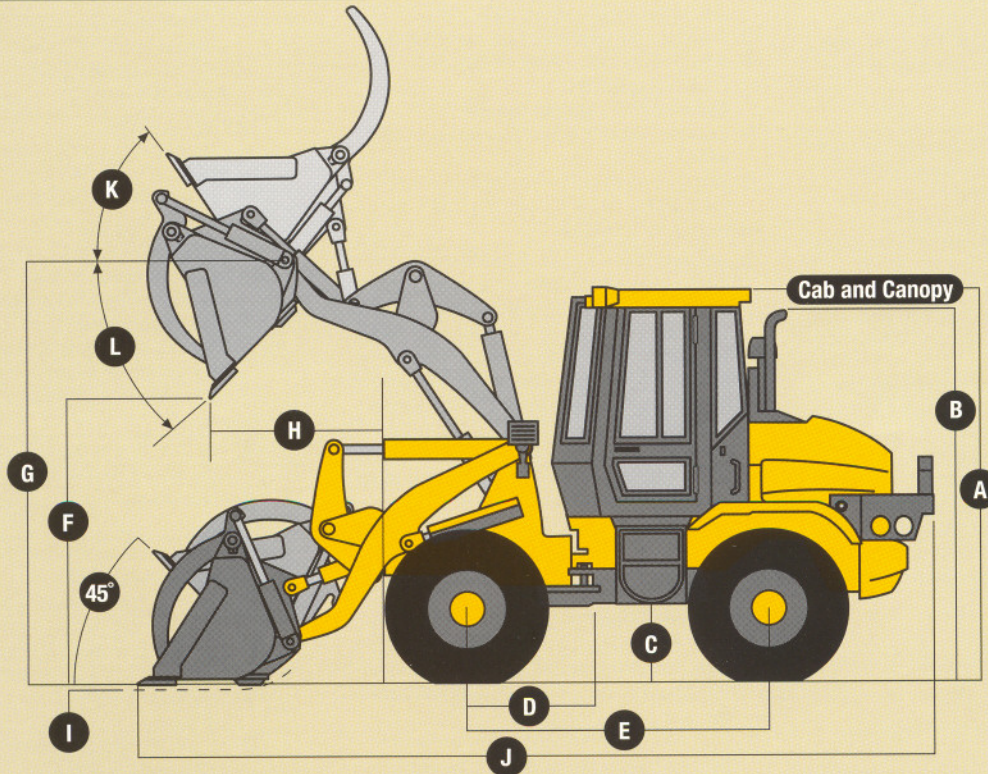
## Capacities (U.S.)

Fuel tank (with ground level fueling) .....	.18.5 gal. (70.0 L)
Cooling system .....	.12.9 qt. (12.2 L)
Engine lubrication, including full-flow spin-on filter .....	.9.9 qt. (9.4 L)
Loader hydraulic and hydrostatic reservoir with filter .....	.11.9 gal. (45.0 L)
Front axle (differential and planetary) .....	.6.0 qt. (5.7 L)
Rear axle (differential and HST motor gearbox) .....	.5.0 qt. (4.7 L)
Front/rear axle planetary hubs (each) .....	.24 oz. (0.7 L)
Parking brake .....	.1.1 qt. (1.0 L)

## Dimensions

### 304H

	<i>with 40 x 14-16, 24-ply aircraft tires</i>	<i>with 405/70R 20 (no fluid) tires</i>
A Height to top of cab and canopy .....	8 ft. 11.0 in. (2718 mm)	9 ft. 0 in. (2750 mm)
B Height to top of exhaust .....	8 ft. 5.0 in. (2565 mm)	8 ft. 6.0 in. (2600 mm)
C Ground clearance .....	11.8 in. (300 mm)	12.8 in. (325 mm)
D Length from centerline to front axle .....	37.4 in. (950 mm)	37.4 in. (950 mm)
E Wheelbase .....	84.6 in. (2150 mm)	84.6 in. (2150 mm)
F Dump height .....	7 ft. 11.3 in. (2421 mm)	8 ft. 0.5 in. (2451 mm)
G Height to hinge pin, fully raised .....	10 ft. 4.0 in. (3150 mm)	10 ft. 5.0 in. (3175 mm)
H Dump reach .....	36.4 in. (925 mm)	35.8 in. (909 mm)
I Maximum digging depth .....	3.0 in. (76 mm)	2.0 in. (51 mm)
J Overall length .....	17 ft. 10.0 in. (5436 mm)	17 ft. 9.0 in. (5410 mm)
K Maximum rollback .....	52 degrees	52 degrees
L Bucket dump at full height .....	42 degrees	42 degrees



## Dimensions with Euro Quick-Coupler Grapple Bucket

	<i>with 40 x 14-16, 24-ply aircraft tires</i>	<i>with 405/70R 20 (no fluid) tires</i>
Grapple bucket with bolt-on edge .....	<i>with 40 x 14-16, 24-ply aircraft tires</i>	<i>with 405/70R 20 (no fluid) tires</i>
Capacity, heaped SAE .....	1.0 cu. yd. (0.8 m <sup>3</sup> )	1.0 cu. yd. (0.8 m <sup>3</sup> )
Capacity, struck SAE .....	0.8 cu. yd. (0.6 m <sup>3</sup> )	0.8 cu. yd. (0.6 m <sup>3</sup> )
Bucket width .....	79.5 in. (2019 mm)	79.5 in. (2019 mm)
Breakout force, SAE J732C .....	10,410 lb. (4722 kg)	10,410 lb. (4722 kg)
Tipping load, straight .....	8,986 lb. (4076 kg)	8,940 lb. (4055 kg)
Tipping load, full turn, SAE .....	8,400 lb. (3810 kg)	8,356 lb. (3790 kg)
Reach, 42-degree dump, full height .....	36.4 in. (925 mm)	35.8 in. (909 mm)
Loader clearance circle, bucket in carry position .....	25 ft. 2 in. (7671 mm)	25 ft. 2 in. (7671 mm)
Operating weight .....	13,880 lb. (6296 kg)	13,500 lb. (6123 kg)

Loader operating information is based on a machine with all standard equipment; waste handler package; reversible fan; rear bumper and integral hood guard; ROPS cab; 175-lb. (79 kg) operator; and full fuel tank. This information is affected by tire size, ballast, and different attachments.

## Dimensions with Fork

	<i>with 40 x 14-16, 24-ply aircraft tires</i>	<i>with 405/70R 20 (no fluid) tires</i>
48-in. (1220 mm) construction/utility fork .....	<i>with 40 x 14-16, 24-ply aircraft tires</i>	<i>with 405/70R 20 (no fluid) tires</i>
Overall length .....	19 ft. 3.5 in. (5880 mm)	19 ft. 2.75 in. (5861 mm)
Tipping load, straight (fork level, load centered on tine) .....	7,205 lb. (3268 kg)	7,169 lb. (3252 kg)
Tipping load, full turn (fork level, load centered on tine) .....	6,733 lb. (3054 kg)	6,702 lb. (3040 kg)
Operating weight .....	13,894 lb. (6302 kg)	13,819 lb. (6268 kg)