

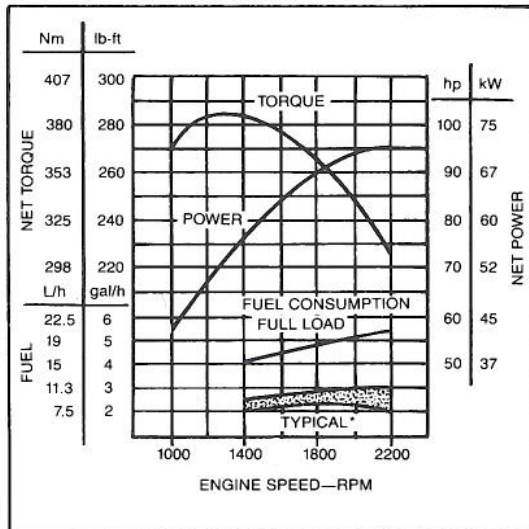


595 EXCAVATOR



Model shown may include options

ENGINE PERFORMANCE



* Depending on operating variables

FEATURES

95 SAE net hp (71 kW) John Deere turbocharged diesel engine

37,100 lb. (16 830 kg) standard operating weight

20 ft. 10 in. (6.35 m) maximum digging depth

30 ft. 9 in. (9.38 m) maximum reach at ground level

18 mph (29 km/h) travel speed—rubber-tired mobility

Advanced high-efficiency, variable-flow hydraulic system provides excellent digging performance, function control and fuel economy

Comfortable high-visibility cab includes all controls for transporting and excavating

Precision low-effort controls for boom, arm, bucket, travel and 360-degree continuous swing

Complete instrumentation/warning system continuously monitors vital machine functions

Hydrostatic drive with Hi-Lo ranges provides excellent on- and off-road versatility

Complete vandal protection with lockable service access

595 EXCAVATOR SPECIFICATIONS

Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with PCSA and SAE Standards. Except where otherwise noted, these specifications are based on a unit with full fuel tank, 175-lb. (80 kg) operator and standard equipment.

Rated Power @ 2200 rpm:	SAE	DIN 70 020
Net	95 hp (71 kW)	71 kW
Gross	100 hp (75 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 ft. (3050 m) altitude. Gross power is without cooling fan.

Engine: John Deere 4-276T

Type	4-stroke cycle, turbocharged diesel
Bore and stroke	4.19 x 5.00 in. (106.5 x 127 mm)
No. of cylinders	4
Displacement	276 cu. in. (4.524 L)
Compression ratio	16.8 to 1
Maximum net torque @ 1300 rpm	284 lb-ft (385 Nm) (39.3 kg-m)
Lubrication	Pressure system with full-flow filter
Cooling fan	Suction type
Electrical system	24-volt with 42-amp alternator
Batteries (two 12-volt)	Reserve capacity: 230 minutes

Hydraulic System: Open Center

Variable-flow, constant horsepower hydraulic system provides independent and combined operation of all functions. Load-sensing adjusts hydraulic flow and pressure to individual function demands. Pump displacement is automatically reduced when controls are returned to neutral.

Main pumps: 2 variable-displacement, axial piston

Pressure setting	4270 psi (29 420 kPa) (300 kg/cm ²)
Maximum oil flow	2 x 48.3 gpm (2 x 183 L/min)

Pilot pump: Gear

Pressure setting	526 psi (3628 kPa) (37 kg/cm ²)
Maximum oil flow	2.54 gpm (9.6 L/min)

Steering pump: Gear

Pressure setting	1778 psi (12 258 kPa) (125 kg/cm ²)
Maximum oil flow	8.35 gpm (31.6 L/min)

Control valves: 2 five-spool valves

System operating pressure	4410 psi (30 400 kPa) (310 kg/cm ²)
Travel	4410 psi (30 400 kPa) (310 kg/cm ²)
Boom	3770 psi (25 994 kPa) (265 kg/cm ²)
Arm	3770 psi (25 994 kPa) (265 kg/cm ²)
Bucket	3770 psi (25 994 kPa) (265 kg/cm ²)
Swing	3560 psi (24 519 kPa) (250 kg/cm ²)
Stabilizers	3560 psi (24 519 kPa) (250 kg/cm ²)

Cylinders:	Bore		Rod Diameter		Stroke	
	In.	(mm)	In.	(mm)	In.	(mm)
Boom (2)	4.72	120	3.15	80	46.46	1180
Arm	4.92	125	3.35	85	52.95	1345
Bucket	4.72	120	3.15	80	36.22	920
Stabilizer	5.12	130	3.35	85	14.88	378
Steering	2.36	60	.98	25	8.66	220
Blade	4.72	120	2.76	70	6.30	160
Axle lock	4.72	120	4.72	120	-	-

Boom, arm and bucket cylinders have a built-in hydraulic cushion at each end of the stroke.

Swing Mechanism:

Swing speed	0 to 13.6 rpm
Swing lock	Manual for transporting
Turntable bearing	Single-row, shear-type ball bearing with induction-hardened, lubricated internal gear and pinion, 500-hour lube interval.

Wheeled Undercarriage:

The undercarriage is available with a blade and (2) stabilizers or with (4) stabilizers. The frame is an all-welded, stress-relieved structure.

Drive system low speed range - all wheels drive
..... high-speed range - rear wheels drive

Travel motor Variable displacement, axial piston motor with hydraulic retarding valve for preventing overspeeding when traveling downhill.

Transmission Constant mesh with high and low speed range.

Travel speeds:	
Low speed range	0 to 5.6 mph (0 to 9.0 km/h)
High speed range	0 to 18.6 mph (0 to 30.0 km/h)

Maximum traction force	19,800 lb-ft (88.1 kN) (9 000 kg)
Gradability	65 percent (33 degrees)

Steering System:

Full hydraulic power steering using two steering cylinders	
Bore	2.4 in. (60 mm)
Rod diameter	1 in. (25 mm)
Stroke	8.7 in. (220 mm)

Brakes:	
Service	Air over hydraulic brakes acting at each wheel - internal-expanding shoe type
(foot pedal or switch)	

Parking	Spring actuated, air-released, internal-expanding shoe type, acting on horizontal drive shaft
(switch)	

Note: Applying brakes with switch also locks oscillating axle

Axles:

Front	Oscillating axle with locking hydraulic cylinders; 14° total oscillation
Rear	Fixed to frame

Tires: (Traction type tread pattern)
10.00-20.0 x 14 PR, duals
18.00-19.6 x 18 PR, singles

Stabilizers:

Each stabilizer cylinder is fitted with a pilot-operated check valve for positive locking. Front and rear stabilizers can be operated independently.

Dozer Blade:

Width	8 ft. 1 in. (2465 mm)
Height	2 ft. 0 in. (610 mm)

Cab:

Large, isolation-mounted, with sound-absorbing materials on ceiling and sidewalls. Safety glass windows. Front window can be stored overhead. Rear window, door, and roof hatch open for ventilation.

Seat:

Deluxe, fully cushioned, vinyl covered, with adjustable backrest, headrest and padded fold-up armrests. Independent horizontal and vertical adjustments. Seat suspension is adjustable to operator weight.

Controls:

Two levers control swing, boom, arm, and bucket functions. The left control lever is deactivated by a lock-out on left console. Front stabilizers and rear stabilizers or blade have independent controls. Hydraulic plumbing can be converted so all stabilizers are controlled together. This makes a control for an auxiliary function (either hand- or foot-operated) available.

Boom and Arm:

Internally reinforced tapered box construction with heat-treated steel bushings. Machined and line-bored after welding for accurate alignment. Centralized lubrication system.

Servicing and Vandal Protection:

Non-slip steps and handrails allow easier servicing and maintenance. Easily accessible engine and hydraulic system covers. Machine covers, fuel cap, and cab door are lockable.

Additional Standard Equipment:

Cab:	Gauges:
Foot throttle and positive position hand throttle	Air pressure gauge
Heater	Engine coolant temperature gauge
Horn	Fuel gauge
Interior light	Quartz hourmeter
Windshield wiper and washer	Engine:
Monitor system with alarm features:	Distributor-type injection pump
Engine coolant temperature warning light w/audible alarm	Dual dry-type air filter
Engine oil pressure warning light w/audible alarm	Electric cold weather (ether) starting aid
Low brake air pressure w/audible alarm	Equipped with 15 CFM (708 m ³ /s), 100 psi (689.5 kPa)
Engine air cleaner restriction indicator light	(7.03 kg/m ³) air compressor system
Engine alternator charge indicator light	Full-flow oil filter
Axle lock indicator light	Heavy-duty fuel filter
Hazard indicator light	Isolated engine mounting
High-beam indicator light	Underhood muffler
Low fuel warning light	Work lights—one boom mounted and two frame mounted
Park brake indicator light	
Service brake indicator light	
Turn indicator lights	
Work light indicator light	

595 EXCAVATOR

BUCKETS

Nominal Width	Bite Width		SAE Heaped	CECE Heaped	Weight
	w/o Sidecutters	w/Sidecutters			
31 in. (785 mm)	34 in. (865 mm)	35 in. (900 mm)	.62 cu. yd. (.51 m ³)	(.45 m ³)	992 lb. (450 kg)
36 in. (915 mm)	39 in. (995 mm)	40 in. (1030 mm)	.75 cu. yd. (.63 m ³)	(.55 m ³)	1080 lb. (490 kg)
Arm	Arm Digging Force			Bucket Tangential Digging Force*	
10 ft. 3 in. (3.13 m)	12,655 lb. (56.3 kN) (5740 kg)			18,960 lb. (84.3 kN) (8600 kg)	

* 57.7 in. (1465 mm) radius bucket pin centerline to tooth tip.

BUCKET SELECTION CHART

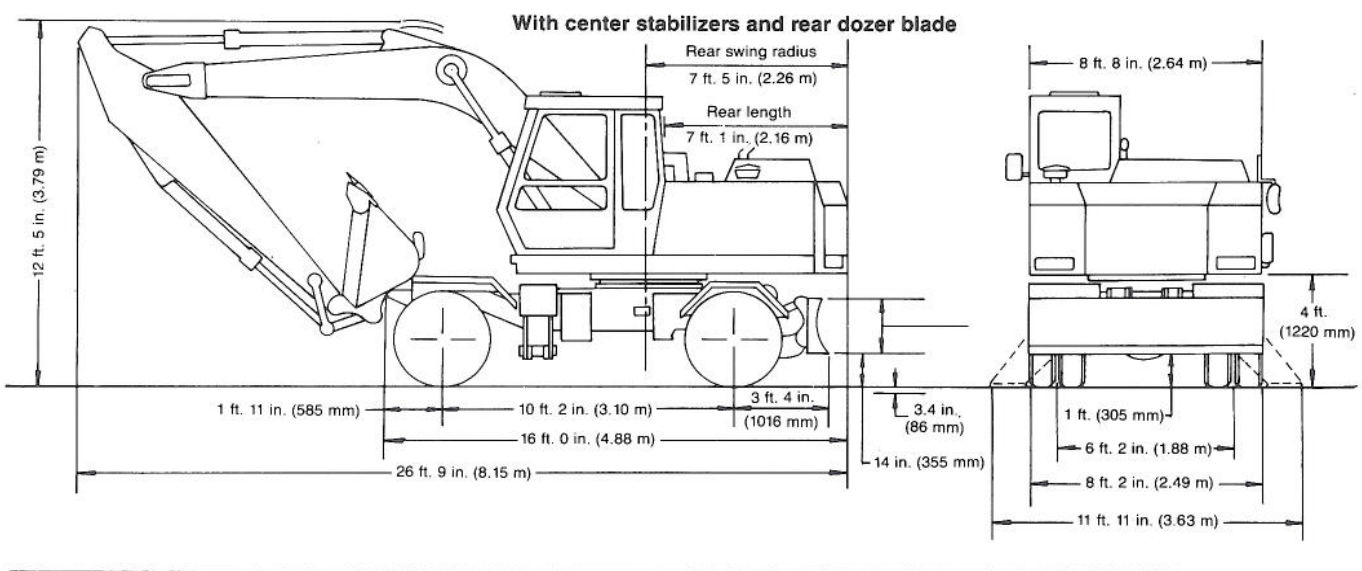
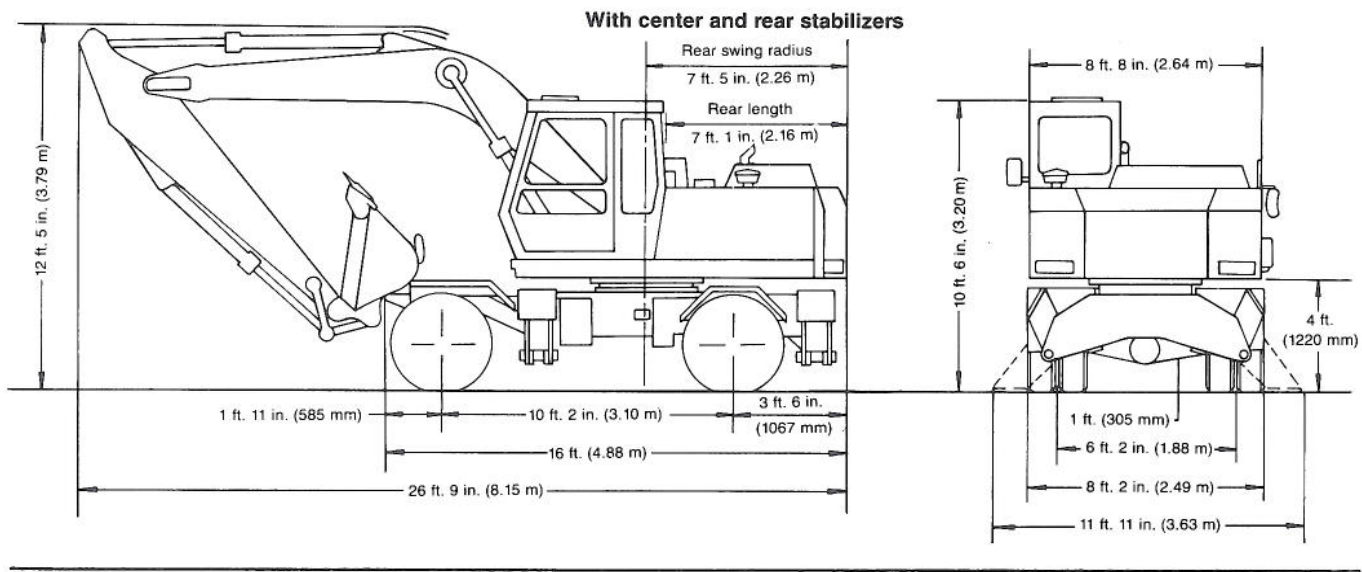
lb/yd ³	kg/m ³	Material	Maximum Recommended Bucket Size**	
			Regular Duty	Heavy Duty
700	420	Wood chips	5 cu. yd. (3.8 m ³)	-
810	480	Peat, dry	4.5 cu. yd. (3.4 m ³)	-
1242	740	Peat, wet	3 cu. yd. (2.3 m ³)	-
1450	860	Cinders	2.5 cu. yd. (1.9 m ³)	-
2000	1186	Topsoil	1.8 cu. yd. (1.4 m ³)	-
2600	1540	Earth, dry loam	1.38 cu. yd. (1.05 m ³)	-
2700	1600	Sand, dry	1.38 cu. yd. (1.05 m ³)	1 cu. yd. (.8 m ³)
3000	1780	Coal, natural bed	1.12 cu. yd. (.9 m ³)	1 cu. yd. (.8 m ³)
3200	1900	Earth, moist loam	1.12 cu. yd. (.9 m ³)	0.88 cu. yd. (.7 m ³)
3250	1930	Sand, gravel, dry	1.12 cu. yd. (.9 m ³)	0.88 cu. yd. (.7 m ³)
3300	1960	Sand, moist	1.12 cu. yd. (.9 m ³)	0.88 cu. yd. (.7 m ³)
3500	2080	Sand, wet	1.12 cu. yd. (.9 m ³)	0.75 cu. yd. (.6 m ³)
3500	2080	Shale	1 cu. yd. (.8 m ³)	0.75 cu. yd. (.6 m ³)
4200	2490	Limestone, broken	-	0.62 cu. yd. (.5 m ³)
4300	2550	Clay, wet	0.88 cu. yd. (.7 m ³)	0.62 cu. yd. (.5 m ³)
4600	2730	Rock, granite, blasted	-	0.62 cu. yd. (.5 m ³)

** Contact your John Deere dealer for optimum bucket and attachment selection. The use of larger than recommended bucket should be carefully analyzed for digging force and load capacity. Bucket capacity indicated is SAE heaped.

Weights:	lb.	kg	Capacities:	U.S. Gal.	Liters
Standard operating weight w/blade, two stabilizers, 10.00-20.0 dual tires, 10 ft. 3 in. (3.13 m) arm and 3/4 cu. yd. (0.57 m ³) bucket, fenders, full fuel tank and 175 lb. (80 kg) operator	37,100	16 830	Fuel tank	68	258
Undercarriage with blade and two stabilizers and w/o tires	13,889	6 300	Engine coolant	5	19
Undercarriage with four stabilizers and w/o tires	14,308	6 490	Engine oil	3.5	13
10.00 x 20.0 dual tires (8)	1,720	780	Swing device	1.4	5.3
18.00 x 19.5 single tires (4)	1,367	620	Transmission (lower)	1.4	5.3
One-piece boom with arm cylinder and boom cylinders	3,615	1 640	Front axle case	1.8	6.9
10 ft. 3 in. (3.13 m) arm w/bucket cylinder and pins	1,852	840	Rear axle case	2.6	10.2
5/8 cu. yd. (.51 m ³) SAE heaped bucket w/o pins	992	450	Wheel gear reduction, each	.6	2.2
3/4 cu. yd. (.63 m ³) SAE heaped bucket w/o pins	1,080	490	Hydraulic system	47.6	180
Two boom cylinders w/o pins	705	320	Hydraulic tank	29.1	110
Air conditioning	44	20			
Cab window covers	110	50			
Upperstructure w/main counterweight (not including boom, boom cylinders, arm and bucket)	14,770	6 700			
Main counterweight	4,409	2 000			

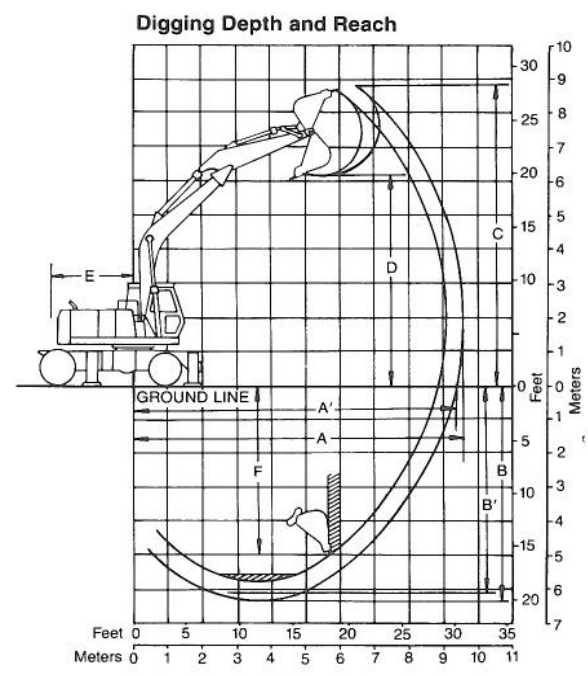
Optional or Special Equipment:

Cab:	Air conditioner with integral heater
	Alternate control pattern
	Foot control for auxiliary hydraulic function
	Window protection covers
Engine coolant heater	
Buckets and attachments	
Undercarriage:	
	10.00-20.0, 14 PR, dual tires
	18.00-19.5, 18 PR, single tires
	Blade with (2) stabilizers
	Stabilizers (4)



- Operating Information:**
- 10 ft. 3 in. (3.13 m) Arm
 - Max. digging depth 20 ft. 10 in. (6.35 m)
 - Max. reach at ground level 30 ft. 9 in. (9.38 m)
 - Max. dumping height 20 ft. 1 in. (6.13 m)
 - Gradability 65 percent (33 degrees)
 - Swing speed 0 to 13.6 rpm
 - Travel speeds: low range 0 to 5.6 mph (0 to 9 km/h)
 - high range 0 to 18.6 mph (0 to 30 km/h)
 - Minimum turning radius 23 ft. 7 in. (7.19 m)
 - Total front axle oscillation 14 degrees
 - Depth of blade cut 3.4 in. (86 mm)
 - Maximum blade to ground clearance 14 in. (355 mm)

- A Max. digging reach 31 ft. 6 in. (9.60 m)
- A' Max. digging reach (on ground) 30 ft. 9 in. (9.37 m)
- B Max. digging depth 20 ft. 10 in. (6.35 m)
- B' Max. digging depth 8 ft. (2.44 m) level 20 ft. 2 in. (6.15 m)
- C Max. cutting height 29 ft. 1 in. (8.86 m)
- D Max. dumping height 20 ft. 1 in. (6.12 m)
- E Min. swing radius (front end) 11 ft. 4 in. (3.45 m)
- F Max. vertical wall 18 ft. 3 in. (5.56 m)



595 EXCAVATOR LIFTING CAPACITIES

Ratings at bucket lift hook, machine situated on firm, uniform supporting surface. Total load includes weight of cables, hook, etc. **Boldface** type indicates hydraulic-limited capacities, lightface type indicates stability-limited capacities, in lb. (kg). Figures do not exceed 87 percent of hydraulic capacities or 75 percent of weight needed to tip machine.
 Note: Upper No.: Without using stabilizers
 Lower No.: Stabilizers fully extended

Equipped with center and rear stabilizers 10 ft. 3 in. (3.13 m) arm and 3/4 cu. yd. (.63 m³) PCSA heaped bucket

Load Point Height	LOAD RADIUS						Max. Radius	
	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	ft. (m)	ft. (m)	
20 ft. (6.10 m)						2290 (1040)	2890 (1310)	
15 ft. (4.57 m)						3050 (1380)	3050 (1380)	
10 ft. (3.05 m)						1780 (810)	2330 (1060)	
5 ft. (1.52 m)						3040 (1380)	3040 (1380)	
Ground Line						1520 (690)	2050 (930)	
-5 ft. (-1.52 m)						3190 (1450)	3190 (1450)	
-10 ft. (-3.05 m)						1430 (650)	1960 (890)	
-15 ft. (-4.57 m)						3490 (1580)	3490 (1580)	
						2040 (930)	2040 (930)	
						3710 (1680)	4020 (1820)	
						1750 (790)	2360 (1070)	
						4230 (1920)	4950 (2250)	
						2440 (1110)	3160 (1430)	
						5490 (2490)	6850 (3110)	

Equipped with center stabilizers and rear dozer blade, 10 ft. 3 in. (3.13 m) arm and 3/4 cu. yd. (.63 m³) PCSA heaped bucket

Load Point Height	LOAD RADIUS						Max. Radius	
	5 ft. (1.52 m)	10 ft. (3.05 m)	15 ft. (4.57 m)	20 ft. (6.10 m)	25 ft. (7.62 m)	ft. (m)	ft. (m)	
20 ft. (6.10 m)						2300 (1040)	2970 (1340)	
15 ft. (4.57 m)						3050 (1380)	3050 (1380)	
10 ft. (3.05 m)						1790 (810)	2410 (1090)	
5 ft. (1.52 m)						3040 (1380)	3040 (1380)	
Ground Line						1530 (690)	2120 (960)	
-5 ft. (-1.52 m)						3190 (1450)	3190 (1450)	
-10 ft. (-3.05 m)						1440 (650)	2030 (920)	
-15 ft. (-4.57 m)						3490 (1580)	3490 (1580)	
						2110 (960)	2110 (960)	
						3260 (1480)	4020 (1820)	
						1770 (800)	2440 (1110)	
						3720 (1690)	4950 (2250)	
						2460 (1120)	3260 (1480)	
						4860 (2200)	6850 (3110)	

