

## 595 EXCAVATOR

37,100 lb (16 830 kg)

Transport Height.....	12 ft 5 in. (3.8 m)
Transport Length.....	26 ft 9 in. (8.2 m)
Machine Width.....	8 ft 2 in. (2.5 m)

### ENGINE.....John Deere 300 Series

Number of Cylinders and Displacement.....	4 cylinders, 276 cu in. (4.5 L)
Air Intake System.....	Turbocharged
Bore and Stroke.....	4.19 x 5.00 in. (106.4 x 127 mm)
Compression Ratio.....	16.8 to 1
Net hp at 2200 rpm.....	95 SAE hp (DIN 71 kW)
Maximum Torque at 1300 rpm.....	284 lb-ft (385 N•m)
Nozzle Opening Pressure:	
New.....	3700 ± 50 psi (25 510 ± 345 kPa)
Used.....	3500 ± 50 psi (24 135 ± 345 kPa)
Valve Clearance (Cold):	
Intake.....	0.014 in. (0.36 mm)
Exhaust.....	0.018 in. (0.46 mm)
Oil Pressure at Fast Idle.....	50 ± 15 psi (345 ± 100 kPa)
Static Injection Pump Timing.....	Line on governor weight retainer aligned with line on cam ring with No. 1 on TDC
Dynamic Injection Pump Timing at 2400 rpm*.....	16 + 0 - 1° BTDC
Speeds:	
Slow Idle.....	1000 ± 25 rpm
Fast Idle.....	2475—2500 rpm
Full Load Rating.....	2200 rpm
Turbo Boost Pressure (at Full Load).....	13—15 psi (90—103 kPa)
Cylinder Compression Pressure (Min).....	350 psi (2415 kPa)
Electrical System.....	24 V
Alternator.....	42 amp
Cooling System Pressure.....	10 psi (69 kPa)
Flywheel Teeth.....	115

Note: \*For latest information, see Dealer Technical Assistance Center (DTAC) Solution K000413.

### POWER TRAIN

Transmission.....	Constant mesh with high and low speed ranges. Disconnect for front drive shaft when in high range. Pressurized lubrication system.
Travel Motor.....	A bent axis, axial piston variable displacement motor. Clutch valve which hydraulically disengages the motor whenever the service brakes are applied.
Travel Brake.....	Air over hydraulic shoe type brakes in each wheel
Park Brake.....	Air actuated drum type on transmission output shaft.

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## HYDRAULIC SYSTEM—Open-Center

Main Pump .....	2 variable-displacement axial-piston
System Pressure:	
Travel .....	4350 ± 150 psi (30 000 kPa)
Digging .....	3840 ± 140 psi (26 480 kPa)
Minimum Flow .....	38 gpm (143.8 L/min) used at 3000 psi (20 684 kPa) and 2200 rpm
Steering:	
Pump .....	Gear
Pressure .....	1800 ± 25 psi (12 410 ± 175 kPa) at 1400 rpm
System Crossover Relief Valve .....	2500 + 50 - 0 psi (17 240 + 345 - 0 kPa)
Minimum Flow .....	6.5 gpm (24.6 L/min) used at 1825 psi (12 580 kPa) and fast idle
Pilot Pump (Gear):	
System Pressure .....	535 ± 50 psi (3869 ± 345 kPa) at fast idle
Minimum Flow .....	2.0 gpm (7.6 L/min) at fast idle

## RELIEF VALVE SETTINGS

Boom I (Head and Rod) Front Pump .....	3840 ± 140 psi (26 480 ± 980 kPa)
Arm I (Head and Rod) Rear Pump .....	3840 ± 140 psi (26 480 ± 980 kPa)
Bucket (Head and Rod) Front Pump .....	3840 ± 140 psi (26 480 ± 980 kPa)
Front Stabilizer (Head and Rod) Front Pump .....	3700 ± 215 psi (25 500 ± 1470 kPa)
Rear or Blade Stabilizer (Head and Rod) Rear Pump .....	3700 ± 215 psi (25 500 ± 1470 kPa)
Swing (Left Control Valve) Rear Pump .....	3350 ± 150 psi (23 100 ± 1035 kPa)
Swing Brake Valve Circuit Relief Valve Left and Right (Crossover Relief) Rear Pump .....	3050 ± 75 psi (21 030 ± 520 kPa)

## CYCLE TIMES (Fast Idle and Hot Oil)

Function:	
Boom Raise .....	2.7 ± 0.3 sec (4.0 sec max)
Boom Lower .....	2.9 ± 0.3 sec
Arm Out .....	2.4 ± 0.3 sec (3.5 sec max)
Arm In .....	3.0 ± 0.4 sec (4.5 sec max)
Bucket Roll-Out .....	2.2 ± 0.3 sec (3.5 sec max)
Bucket Roll-In .....	3.5 ± 0.4 sec (5.0 sec max)
Swing (3 revolutions) .....	13.1 ± 0.7 sec (16.0 sec max)
Stabilizer Extend .....	3.3 ± 0.3 sec (4.5 sec max)
Stabilizer Restart .....	2.5 ± 0.4 sec (4.0 sec max)

## LUBRICANTS

See front of this book for the codes [ ].

CAPACITIES	U.S.	Metric
Fuel Tank .....	68 gal	258 L
Cooling System .....	5 gal	19 L
Engine Oil w/ Filter [E] .....	13 qt	12 L
Hydraulic:		
System [R] .....	47.6 gal	180 L
Reservoir [R] .....	29 gal	110 L
Swing Gear [See Operators Manual] .....	20 lb	9 kg
Swing Gearbox [J] .....	5.6 qt	5.3 L
Transmission [J] .....	5.6 qt	5.3 L
Front Axle Case [J] .....	7.3 qt	6.9 L
Rear Axle Case [J] .....	10.6 qt	10.2 L
Hub Reduction Case (Each) [J] .....	2.3 qt	2.2 L

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## **AIR SYSTEM**

Governor Cut-In Pressure.....	94 psi (650 kPa)
Hydraulic Reservoir Air	
Pressure Regulator Setting .....	11 psi (80 kPa)
Hydraulic Reservoir Air	
Pressure Relief Valve Setting .....	26 psi (180 kPa)