

## 990 EXCAVATOR

88,300 lb (40 052 kg)

Transport Height.....	12 ft (3.66 m)
Transport Length.....	39 ft 8.5 in. (12.11 m)
Machine Width.....	11 ft 11 in. (3.63 m)

### ENGINE.....John Deere 700 Series

Number of Cylinders and Displacement.....	8 cylinders, 955 cu in. (15.7 L)
Air Intake System.....	Turbocharged
Bore and Stroke.....	5.5 x 5 in. (140 x 127 mm)
Net hp at 2100 rpm.....	260 SAE hp (193.9 kW) DIN 194 kW
Maximum Torque at 1300 rpm.....	858 lb-ft (1163 N•m)
Nozzle Opening Pressure:	
New.....	3800—3950 psi (26 200—27 235 kPa)
Used (Min).....	3600 psi (24 820 kPa)
Valve Clearance (Cold):	
Intake.....	0.016 in. (0.41 mm)
Exhaust.....	0.023 in. (0.58 mm)
Oil Pressure at Fast Idle.....	60—75 psi (415—515 kPa)
Static Injection Pump Timing.....	Timing lines aligned w/ flywheel located at TDC
Speeds:	
Slow Idle.....	800 ± 25 rpm
Fast Idle.....	2275—2300 rpm
Full Load Rating.....	2100 rpm
Cylinder Pressure Hot (Min).....	380 psi (2620 kPa) cranking w/ injectors removed
Turbo Boost Pressure at Full Load.....	14—16 psi (100—120 kPa)
Flywheel Teeth.....	123
Electrical System.....	24 V
Alternator.....	42 amp

### POWER TRAIN

Propel Motor.....	2-speed bent axis variable displacement axial piston hydraulic motor w/ planetary and spur reduction
Swing Speed (360°).....	10.9 sec
Propel Speed (Track Revolution) at 1200 rpm.....	19—21 sec at high speed 44—46 sec at low speed

### HYDRAULIC SYSTEM—Open-Center

Pump Flow (Min) Used, at 2700 psi (18 615 kPa) and 2000 rpm	
First Pump Section.....	55 gpm (208 L/min)
Second Pump Section.....	55 gpm (208 L/min)
Third Pump Section.....	21 gpm (80 L/min)
Pilot Pressure Reducing Valve.....	440 ± 20 psi (3032 ± 138 kPa)
Pilot Accumulator Pressure.....	100 ± 10 psi (690 ± 69 kPa)

### RELIEF VALVE SETTINGS

Boom Circuit (2 Used).....	3000 + 50 - 100 psi (20 685 + 345 - 690 kPa)
Crowd Circuit (2 Used).....	3000 + 50 - 100 psi (20 685 + 345 - 690 kPa)
Bucket Circuit (2 Used).....	3000 + 50 - 100 psi (20 685 + 345 - 690 kPa)
Swing Crossover.....	2500 psi (17 240 kPa)
Propel Crossover (4 Used).....	3100 ± 50 psi (21 375 ± 345 kPa)
System Pilot Relief (2 Used).....	2800 + 100 - 50 psi (19 305 + 690 - 345 kPa)
Main System Relief Valve Setting.....	2700 + 50 - 100 psi (18 615 + 345 - 690 kPa)
Pilot Control.....	440 ± 20 psi (3032 ± 138 kPa)
Pilot Accumulator.....	100 psi (690 kPa)

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## CYCLE TIMES

Boom Raise w/ Arm Retracted and

Bucket Extended .....	4.5 sec
Arm Extend .....	5.7 sec
Bucket Retract .....	2.7 sec

## LUBRICANTS

See front of this book for the codes [ ].

## CAPACITIES

	<b>U.S.</b>	<b>Imp.</b>	<b>Metric</b>
Engine:			
Cooling System [N] .....	16 gal	13.4 gal	60.6 L
Crankcase w/ Filter [E] .....	40 qt	33.3 qt	37.9 L
Planetary Final Drives (Each) [J] .....	21 qt	17.5 qt	20.0 L
Swing Drive (Each) [J] .....	9.25 qt	7.7 qt	8.7 L
Propel Brakes (Dry)			
Hydraulic:			
System [R] .....	220 gal	183.3 gal	832.8 L
Reservoir [R] .....	92 gal	76.7 gal	348.2 L
Fuel Tank .....	143 gal	119.2 gal	541.3 L