**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 x 127 mm)
- **Net HP at 2200 rpm**: 80 SAE hp (60 kW) DIN 60 kW
- **Maximum Torque at 1300 rpm**: 248 lb-ft (336 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 ± 105 kPa)
- **Static Injection Pump Timing**
  - Timing lines aligned w/flywheel located at TDC
- **Dynamic Injection Pump Timing at 2500 rpm**
  - 16 + 0 - 1° BTDC

- **Speeds**:
  - Slow Idle: 825 ± 25 rpm
  - Fast Idle: 2375—2400 rpm
  - Rated Full Load: 2200 rpm

- **Cylinder Pressure Hot (Min)**: 350 psi (2415 kPa)
- **Turbo Boost Pressure at Rated Full Load**: 8—9 psi (55—62 kPa)
- **Flywheel Teeth**: 115

- **Electrical System**: 12 V
- **Alternator**:
  - With Cab: 51 amp
  - Without Cab: 35 amp

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

**TRANSMISSION**

- **Model and Speeds**: Powershift: 8 forward, 4 reverse
- **Transmission System Pressure at 1500 rpm**: 180 ± 5 psi (1240 ± 35 kPa)
- **Pump Flow (Min) at 1500 rpm**
  - New: 12 gpm (45.4 L/min)
  - Used: 11 gpm (41.6 L/min)
- **Lube Pressure**: 32—42 psi (220—290 kPa)

**FRONT WHEEL DRIVE**

HYDRAULIC SYSTEM—Close-Center

Main Hydraulic Pump Size: 4 cu in. (65.5 cm³)
Main Pump Standby Pressure: 2550 ± 50 psi (17 585 ± 345 kPa)
Main Pump Flow at 2000 psi (13 790 kPa) and 2000 rpm:
  New: 30 gpm (113.4 L/min)
  Used: 26.5 gpm (105.5 L/min)
Priority Valve Setting: 1525 ± 145 psi (10 515 ± 1000 kPa)
Charge Pressure (Min): 70 psi (480 kPa)
Hydraulic Filter Relief Valve: 120—130 psi (830—900 kPa)
Cooler Relief Valve: 100—120 psi (690—830 kPa)
System Relief Valve: 2700—3200 psi (18 630—22 000 kPa)

RELIEF VALVE SETTINGS
Loader:
  Bucket Rollback and Dump: 4500 psi (31 030 kPa)
Backhoe:
  Crowd Out and In: 2750 psi (18 962 kPa)
  Boom Lower: 2025 psi (13 965 kPa)
  Boom Raise: 4000 psi (27 580 kPa)
  Bucket Curl: 3500 psi (24 135 kPa)
  Bucket Dump: 2750 psi (18 960 kPa)
  Swing Left and Right: 2610 psi (17 995 kPa)

CYCLE TIMES (Typical at Fast Idle)
Oil Temperature: 150 ± 10°F (65 ± 5°C)
Loader:
  Boom Raise: 4.5 sec
  Boom Lower:
    Power Down: 2.9 sec
    Float Down: 3.3 sec
  Bucket Dump: 1.9 sec
  Bucket Rollback: 2.5 sec
Backhoe:
  Boom Raise: 2.4 sec
  Boom Lower: 3.0 sec
  Crowd In: 3.9 sec
  Crowd Out: 3.1 sec
  Bucket Dump: 1.5 sec
  Bucket Curl: 2.0 sec
  Backhoe Swing: 2.8 sec
  Stabilizer Down: 3.9 sec
  Stabilizer Up: 5.1 sec
  Extendible Dipperstick
    Extend and Retract: 2.8 sec
Steering Right to Left (w/o FWD): 4.5 turns
Steering Left to Right (w/o FWD): 3.5 turns
LUBRICANTS
See front of this book for the codes [ ].

CAPACITIES

<table>
<thead>
<tr>
<th>Engine:</th>
<th>U.S.</th>
<th>Metric</th>
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</thead>
<tbody>
<tr>
<td>Cooling System [N]</td>
<td>17 qt</td>
<td>16.1 L</td>
</tr>
<tr>
<td>Crankcase w/ Filter [E]</td>
<td>9 qt</td>
<td>8.5 L</td>
</tr>
<tr>
<td>Front Axle (FWD) [J]</td>
<td>7 qt</td>
<td>6.5 L</td>
</tr>
<tr>
<td>Front Wheel Planetary (FWD) (Per Side) [J]</td>
<td>1.1 qt</td>
<td>1.0 L</td>
</tr>
<tr>
<td>Fuel Tank</td>
<td>23 gal</td>
<td>87.1 L</td>
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<tr>
<td>Rear Axle [C]</td>
<td>18 qt</td>
<td>17 L</td>
</tr>
<tr>
<td>Transmission and Hydraulic System [C]</td>
<td>20 gal</td>
<td>76 L</td>
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</tbody>
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TIRE PRESSURE (Cold Inflation)

<table>
<thead>
<tr>
<th>Tire Size</th>
<th>Type</th>
<th>Rating</th>
<th>Normal Pressure</th>
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<tbody>
<tr>
<td>Front:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-16 (w/o FWD)</td>
<td>F3</td>
<td>12 PR</td>
<td>64 psi (440 kPa)</td>
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<tr>
<td>14.5/75-16.1 (w/o FWD)</td>
<td>F3</td>
<td>10PR</td>
<td>40 psi (275 kPa)</td>
</tr>
<tr>
<td>12-16.5 (w/ FWD)</td>
<td>F3</td>
<td>8 PR</td>
<td>60 psi (415 kPa)</td>
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<tr>
<td>Rear:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.4-28 (w/o FWD)</td>
<td>R4</td>
<td>12 PR</td>
<td>36 psi (250 kPa)</td>
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<tr>
<td>19.5L-24 (w/o FWD)</td>
<td>R4</td>
<td>12 PR</td>
<td>34 psi (235 kPa)</td>
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<tr>
<td>21L-24 (w/ FWD)</td>
<td>R4</td>
<td>10 PR</td>
<td>26 psi (179 kPa)</td>
</tr>
<tr>
<td>21L-24 (w/FWD)</td>
<td>R4</td>
<td>16 PR</td>
<td>40 psi (275 kPa)</td>
</tr>
</tbody>
</table>