NEBRASKA TRACTOR TEST 1839
JOHN DEERE 5205 DIESEL
8 SPEED
Chassis serial numbers 522000 and higher

<table>
<thead>
<tr>
<th>LOCATION OF TEST:</th>
<th>Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATES OF TEST:</td>
<td>May 25 - 27, 2004</td>
</tr>
<tr>
<td>MANUFACTURER:</td>
<td>John Deere Commercial Products Inc., 700 Horizon South Parkway, Grovetown Ga. USA, 30813</td>
</tr>
</tbody>
</table>

### FUEL, OIL AND TIME:
- Fuel: No. 2 Diesel
- Specific gravity converted to 60°/60° F (15°/15°C) = 0.8432
- Fuel weight: 7.021 lbs/gal (0.841 kg/l)
- Oil: SAE 15W40 API service classification CG-4
- Transmission and hydraulic lubricant: John Deere Hy-Gard Fluid
- Front axle lubricant: SAE 80W90 API GL-5
- Total time engine was operated: 9.0 hours

### ENGINE:
- Make: John Deere Diesel
- Type: three cylinder vertical
- Serial No.: *PE3029D331181*
- Crankshaft lengthwise: Rated engine speed—(PTO speed—564 rpm)
  - RPM: 2300
- Bore and stroke: 4.19" x 4.33" (106.4 mm x 110.0 mm)
- Compression ratio: 17.4 to 1
- Displacement: 179 cu in (2934 ml)
- Starting system: 12 volt
- Lubrication: Pressure
- Air cleaner: one paper element and one polyester felt element
- Oil filter: one full flow cartridge
- Fuel filter: one paper element
- Muffler: underhood
- Exhaust: vertical
- Cooling medium temperature control: one thermostat
- Power take-off performance:
  - Power: 51.97 HP (38.76 kW)
  - Shaft speed: 2298 rpm
  - Gal/hr: 3.16
  - lb/hr: 0.427
  - Hp/hr: 16.45
  - Mean Atmospheric Conditions: (3.24)

### MAXIMUM POWER AND FUEL CONSUMPTION

<table>
<thead>
<tr>
<th>Power (HP)</th>
<th>Crankshaft speed (rpm)</th>
<th>Gal/hr</th>
<th>lb/hr</th>
<th>Hp/hr/gal</th>
<th>Mean Atmospheric Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>51.97</td>
<td>2298</td>
<td>3.16</td>
<td>0.427</td>
<td>16.45</td>
<td>(3.24)</td>
</tr>
</tbody>
</table>

### VARYING POWER AND FUEL CONSUMPTION

<table>
<thead>
<tr>
<th>Power (HP)</th>
<th>Crankshaft speed (rpm)</th>
<th>Gal/hr</th>
<th>lb/hr</th>
<th>Hp/hr/gal</th>
<th>Mean Atmospheric Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>51.97</td>
<td>2298</td>
<td>3.16</td>
<td>0.427</td>
<td>16.45</td>
<td>Air temperature</td>
</tr>
<tr>
<td>45.97</td>
<td>2388</td>
<td>2.78</td>
<td>0.424</td>
<td>16.55</td>
<td>77°F (25°C)</td>
</tr>
<tr>
<td>34.95</td>
<td>2431</td>
<td>2.26</td>
<td>0.455</td>
<td>15.43</td>
<td>Relative humidity</td>
</tr>
<tr>
<td>23.58</td>
<td>2459</td>
<td>1.71</td>
<td>0.509</td>
<td>13.79</td>
<td>56%</td>
</tr>
<tr>
<td>11.90</td>
<td>2489</td>
<td>1.15</td>
<td>0.681</td>
<td>10.31</td>
<td>Barometer</td>
</tr>
<tr>
<td>0.59</td>
<td>2506</td>
<td>0.73</td>
<td>8.71</td>
<td>0.81</td>
<td>28.88&quot;Hg (978.0kPa)</td>
</tr>
</tbody>
</table>

### TRACTOR SOUND LEVEL WITHOUT CAB

<table>
<thead>
<tr>
<th>Speed</th>
<th>Front Wheel Drive Engaged dB(A)</th>
<th>Disengaged dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At no load in 3rd(A3) gear</td>
<td>85.7</td>
<td>89.6</td>
</tr>
<tr>
<td>Transport speed-no load-8th(B4) gear</td>
<td>93.7</td>
<td></td>
</tr>
<tr>
<td>Bystander in 8th(B4) gear</td>
<td>–</td>
<td>83.4</td>
</tr>
</tbody>
</table>

### TIRES AND WEIGHT

<table>
<thead>
<tr>
<th>Rear Tires-No., size, ply &amp; psi(kPa)</th>
<th>Tested Without Ballast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two 16.9-28; 6;12(85)</td>
<td></td>
</tr>
<tr>
<td>Two 9.5-24; 6;15(87)</td>
<td></td>
</tr>
<tr>
<td>Height of Drawbar</td>
<td>17.5 in (445 mm)</td>
</tr>
<tr>
<td>Static Weight with operator—Rear</td>
<td>2850 lb (1293 kg)</td>
</tr>
<tr>
<td>Front</td>
<td>20090 lb (948 kg)</td>
</tr>
<tr>
<td>Total</td>
<td>4940 lb (2241 kg)</td>
</tr>
</tbody>
</table>

**Location of Test:** Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln Nebraska 68583-0832

**Dates of Test:** May 25 - 27, 2004

**Manufacturer:** John Deere Commercial Products Inc., 700 Horizon South Parkway, Grovetown Ga. USA, 30813

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60° F (15°/15°C) 0.8432 Fuel weight 7.021 lbs/gal (0.841 kg/l) Oil SAE 15W40 API service classification CG-4 Transmission and hydraulic lubricant John Deere Hy-Gard Fluid Front axle lubricant SAE 80W90 API GL-5 Total time engine was operated 9.0 hours

**ENGINE:** Make John Deere Diesel Type three cylinder vertical Serial No. *PE3029D331181* Crankshaft lengthwise Rated engine speed 2500 Bore and stroke 4.19" x 4.33" (106.4 mm x 110.0 mm) Compression ratio 17.4 to 1 Displacement 179 cu in (2934 ml) Starting system 12 volt Lubrication pressure Air cleaner one paper element and one polyester felt element Oil filter one full flow cartridge Fuel filter one paper element Muffler underhood Exhaust vertical Cooling medium temperature control one thermostat

**ENGINE OPERATING PARAMETERS:** Fuel rate: 19.7 - 22.3 lb/h (8.9 - 10.1 kg/h) High idle: 2475 - 2525 rpm

**CHASSIS:** Type front wheel assist Serial No. *LV5205C522507* Tread width rear 55.8" (1417 mm) to 71.7" (1820 mm) front 52.8" (1340 mm) to 75.0" (1904 mm) Wheelbase 76.8" (1950 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.94 (3.13) second 2.78 (4.48) third 3.95 (6.33) fourth 5.51 (8.87) fifth 6.44 (10.36) sixth 9.72 (15.64) seventh 13.74 (22.11) eighth 19.26 (31.00) reverse 2.32 (3.74), 3.32 (5.34), 4.70 (7.56), 6.58 (10.59) Clutch single dry disc operated by foot pedal Brakes single wet disc mechanically operated by two foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 2199 engine rpm Unladen tractor mass 4765 lb (2161 kg)
THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II
Quick Attach: None
Maximum Force Exerted Through Whole Range: 3173 lbs (14.1 kN)

i) Opening pressure of relief valve: NA
Sustained pressure of the open relief valve: 2820 psi (194 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed:
9.9 GPM (37.5 l/min)

iii) Pump delivery rate at maximum hydraulic power:
11.8 GPM (44.7 l/min)
Delivery pressure: 2540 psi (175 bar)
Power: 14.7 HP (10.9 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. (bar)
Location: hydraulic service port
Hydraulic oil temperature: °F (°C)
158 (70)

Location: hydraulic sump
Category: II
Quick attach: none

SAE Static Test—System pressure 2485 psi (171 Bar)
Hitch point distance to ground level in. (mm) 8.0 (203) 15.0 (381) 22.0 (559) 29.0 (737) 36.0 (914)
Lift force on frame lb (kN) 3812 4190 4356 4275 4124

ASAE Static Test—System pressure 2755 psi (190 Bar)
Hitch point distance to ground level in. (mm) 8.0 (203) 15.0 (381) 22.0 (559) 29.0 (737) 36.0 (914)
Lift force on frame lb (kN) 4227 4680 4884 4776 4568

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The performance figures on this report apply to tractor chassis serial numbers 522000 and higher.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 143°F (61°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1839, July 13, 2004.

Leonard L. Bashford
Director
M.F. Kocher
V.I. Adamchuk
W.P. Campbell
Board of Tractor Test Engineers

SAE/ASAE Test | OECD Test
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A 24.3 617 | 25.2 641
B 22.5 617 | 25.2 641
C 11.4 290 | 11.4 290
D 13.2 334 | 13.2 334
E 12.1 308 | 12.1 308
F 12.0 305 | 12.0 305
G 4.9 124 | 4.9 124
H 26.4 670 | 26.4 670
I 2.8 64 | 2.8 64
J 12.0 305 | 12.0 305
K 12.0 305 | 12.0 305
L 12.0 305 | 12.0 305
M 21.5 546 | 21.5 546
N 15.8 402 | 15.8 402
O 36.1 916 | 36.1 916
P 22.5 572 | 22.5 572
Q 36.1 916 | 36.1 916
R 22.5 572 | 22.5 572

Hitch dimensions as tested - No load

John Deere 5205 Diesel

Agricultural Research Division
Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln
Darrell Nelson, Dean and Director