NEBRASKA TRACTOR TEST 1838
JOHN DEERE 5105 DIESEL
8 SPEED
Chassis Serial numbers 512000 and higher

Location of Test: Nebraska Tractor Test Laboratory, University of Nebraska, Lincoln, Nebraska 68583-0832
Dates of Test: May 26 - 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
Total time engine was operated 9.5 hours

ENGINE: Make John Deere Diesel
Type three cylinder vertical
Serial No. *PE3029D321398*
Crankshaft lengthwise
Rated engine speed 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

ENGINE OPERATING PARAMETERS: Fuel rate: 17.9 - 20.1 lb/h (8.1 - 9.1 kg/h) High idle: 2475 - 2525 rpm

CHASSIS: Type Standard
Serial No. *LV5105C512136*
Tread width
rear 55.8" (1417 mm) to 71.7" (1820 mm)
front 57.0" (1449 mm) to 82.0" (2083 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) eigtht 19.26 (31.00) reverse 2.92 (4.74), 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 4125 lb (1871 kg)

Maximum Torque 133 lb.-ft. (180 Nm) at 1456 rpm
Torque rise at 1798 rpm - 20%
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:
   11.6 GPM (43.9 l/min)
   hydraulic power:
   9.5 GPM (36.0 l/min)
   Delivery pressure:
   2500 psi (172 bar)
   Power:
   13.9 HP (10.4 kW)

DELIVERY PRESSURE: 2500 psi (172 bar)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi (bar)

Location: hydraulic service port
Hydraulic oil temperature: °F (°C)

Hitch point distance to ground level in. (mm)

Lift force on frame lb (kN)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The performance data on this report applies to tractor chassis serial numbers 512000 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 133°F (56°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1838, July 13, 2004.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
Board of Tractor Test Engineers

S.A.E. Static Test—System pressure 2485 psi (171 Bar)

SAE/ASAE Test          OECD Test

<table>
<thead>
<tr>
<th>Hitch point distance to ground level in. (mm)</th>
<th>(8.0/203)</th>
<th>15.0/381</th>
<th>22.0/559</th>
<th>29.0/737</th>
<th>36.0/914</th>
</tr>
</thead>
<tbody>
<tr>
<td>* * * * * * * * * * (kN)</td>
<td>(17.0)</td>
<td>(18.6)</td>
<td>(19.4)</td>
<td>(19.0)</td>
<td>(18.3)</td>
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</table>

ASAE Static Test—System pressure 2755 psi (190 Bar)

<table>
<thead>
<tr>
<th>Hitch point distance to ground level in. (mm)</th>
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<th>15.0/381</th>
<th>22.0/559</th>
<th>29.0/737</th>
<th>36.0/914</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lift force on frame lb (kN)</td>
<td>4227</td>
<td>4680</td>
<td>4884</td>
<td>4775</td>
<td>4124</td>
</tr>
<tr>
<td>* * * * * * * * * *</td>
<td>(18.8)</td>
<td>(20.8)</td>
<td>(21.7)</td>
<td>(21.2)</td>
<td>(20.7)</td>
</tr>
</tbody>
</table>

HITCH DIMENSIONS AS TESTED - NO LOAD

John Deere 5105 Diesel

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