## NEBRASKA TRACTOR TEST 2025
### JOHN DEERE 5083E LIMITED DIESEL
#### 12 SPEED
##### CHASSIS SERIAL NUMBERS 340000 AND HIGHER

### POWER TAKE-OFF PERFORMANCE

<table>
<thead>
<tr>
<th>Power</th>
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**VARYING POWER AND FUEL CONSUMPTION**

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### TIRE AND WEIGHT

**Tested Without Ballast**

- **Rear Tires** - 16.9-30/6.12 (87)
- **Front Tires** - 11.2-24/6.16 (110)
- **Height of Drawbar** - 17.5 in (445 mm)
- **Static Weight with operator** - Rear:
  - Front: 4320 lbs (1960 kg)
  - Total: 7570 lbs (3343 kg)

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

### Dates of tests:
May 8 - 17, 2012

### 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)
- 0.8448 Fuel weight 7.034 lbs/gal (0.843 kg/l)
- Oil SAE 15W40 API service classification CF/CH-4

#### Oil
- Transmission and hydraulic lubricant John Deere Hy-Gard Fluid
- Front axle lubricant SAE 80W90 API GL-5

#### Time:
- Total time engine was operated 6.0 hours

### ENGINE:
#### Type:
John Deere Diesel Type four cylinder vertical with turbocharger and air to air aftercooler
- Serial No. *PE4045L806793*

#### Rated engine speed—2400 rpm
- Bore and stroke 4.19” x 5.00” (106.4 mm x 127.0 mm)
- Compression ratio 19.0 to 1

#### Displacement 276 cu in (4517 ml)
- Starting system 12 volt
- Lubrication pressure 85 psi
- Air cleaner one paper element and one polyester felt element
- Oil cooler one full flow cartridge element and one polyester felt element
- Fuel cooler radiator for pump return fuel
- Muffler underhood
- Coolant medium temperature control one thermostat and variable speed fan

### ENGINE OPERATING PARAMETERS:
#### Fuel rate:
- 32.0 - 34.8 lbs/hr (14.5 - 15.8 kg/hr) High idle: 2575 - 2650 rpm
- Turbo boost: nominal 8.7 - 11.6 psi (60 - 80 kPa) as measured 10.0 psi (69 kPa)

#### Wheelbase 85.7” (2178 mm)
- Hydraulic control system direct engine drive
- Transmission selective gear fixed ratio
- Nominal travel speeds mph (km/h) first 1.01 (1.63) second 1.37 (2.21) third 1.88 (3.02) fourth 2.52 (4.05) fifth 2.91 (4.69) sixth 3.96 (6.38) seventh 5.41 (8.71) eighth 7.25 (12.03) ninth 9.19 (15.2) tenth 11.46 (18.85) eleventh 13.65 (21.9) twelfth 20.96 (33.74) reverse 1.00 (1.61) 1.50 (2.42) 2.05 (3.30) 2.75 (4.42) 3.18 (5.12) 4.32 (6.96) 5.90 (9.50) 7.91 (12.73) 8.53 (13.73) 12.51 (20.13) 17.08 (27.48) 22.87 (36.81)
- Clutch single wet disc operated by foot pedal
- Brakes single wet disc hydraulically operated by two foot pedals which can be locked together
- Hydrostatic Power take-off 540 rpm at 2385 engine rpm or 540 rpm at 1720 engine rpm

#### Unladen tractor mass 7195 lb (3264 kg)
HYDRAULIC PERFORMANCE

CATEGORY: II
Quick Attach: None
OECD Static test
Maximum force exerted through whole range: 3213 lbs (14.3 kN)
i) Sustained pressure of the open relief valve: 2920 psi (201 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed: 17.1 GPM (64.6 l/min)
iii) Pump delivery rate at maximum hydraulic power: 15.5 GPM (58.5 l/min)
Delivery pressure: 2542 psi (175 bar)
Power: 22.9 HP (17.1 kW)

THREE POINT HITCH PERFORMANCE

Observed maximum pressure psi. (bar) 2830 (195)
Location: remote outlet
Hydraulic oil temperature: °F (°C) 148 (64)
Location: pump inlet
Category: II
Quick attach: none

SAE Static Test—System pressure 2520 psi (174 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) 4694 (20.9) 4829 (21.5) 4685 (20.8) 4266 (19.0) 3596 (16.0)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

NOTE: The performance figures on this report apply to tractors with chassis serial numbers 340000 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 101°F (38°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 2025, July 2, 2012.

Roger M. Hoy
Director
M.A. Hanna
P.J. Jasa
J.D. Luck
Board of Tractor Test Engineers
## Shiftable PTO Performance

### Economy mode
540 PTO rpm @1720 engine rpm

<table>
<thead>
<tr>
<th>Power HP (kW)</th>
<th>Crank shaft speed rpm</th>
<th>Gal/hr (l/h)</th>
<th>lb/hp.hr (kg/kW.h)</th>
<th>Hp.hr/gal (kW.h/l)</th>
</tr>
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<tbody>
<tr>
<td>52.25 (38.96)</td>
<td>1722</td>
<td>3.14 (11.87)</td>
<td>0.422 (0.257)</td>
<td>16.66 (3.28)</td>
</tr>
<tr>
<td>38.85 (28.97)</td>
<td>1716</td>
<td>2.38 (9.02)</td>
<td>0.432 (0.263)</td>
<td>16.30 (3.21)</td>
</tr>
<tr>
<td>25.90 (19.31)</td>
<td>1725</td>
<td>1.83 (6.92)</td>
<td>0.496 (0.302)</td>
<td>14.18 (2.79)</td>
</tr>
<tr>
<td>12.80 (9.54)</td>
<td>1731</td>
<td>1.27 (4.81)</td>
<td>0.698 (0.425)</td>
<td>10.08 (1.99)</td>
</tr>
<tr>
<td>0.55 (0.41)</td>
<td>1728</td>
<td>0.77 (2.93)</td>
<td>9.909 (6.032)</td>
<td>0.71 (0.14)</td>
</tr>
</tbody>
</table>

### Normal mode
540 PTO rpm @2385 engine rpm

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<th>Crank shaft speed rpm</th>
<th>Gal/hr (l/h)</th>
<th>lb/hp.hr (kg/kW.h)</th>
<th>Hp.hr/gal (kW.h/l)</th>
</tr>
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<tr>
<td>52.00 (38.78)</td>
<td>2381</td>
<td>3.81 (14.43)</td>
<td>0.515 (0.314)</td>
<td>13.65 (2.69)</td>
</tr>
<tr>
<td>38.85 (28.97)</td>
<td>2377</td>
<td>3.10 (11.72)</td>
<td>0.561 (0.341)</td>
<td>12.54 (2.47)</td>
</tr>
<tr>
<td>25.85 (19.28)</td>
<td>2384</td>
<td>2.47 (9.36)</td>
<td>0.673 (0.409)</td>
<td>10.46 (2.06)</td>
</tr>
<tr>
<td>12.70 (9.47)</td>
<td>2382</td>
<td>1.84 (6.95)</td>
<td>1.017 (0.619)</td>
<td>6.92 (1.36)</td>
</tr>
<tr>
<td>0.50 (0.37)</td>
<td>2378</td>
<td>1.30 (4.94)</td>
<td>18.350 (11.170)</td>
<td>0.38 (0.08)</td>
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**John Deere 5083E Ltd Diesel**

Institute of Agriculture and Natural Resources
University of Nebraska–Lincoln