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2013

Test 2055: John Deere 6105D

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 2055
JOHN DEERE 6105D DIESEL
9 SPEED
CHASSIS SERIAL NUMBERS 5xxxx AND HIGHER

POWER TAKE-OFF PERFORMANCE

| Power HP (kW) | Crank shaft speed rpm | Gal/hr (l/h) | lb/hp.hr (kg/kW.h) | Hp.hr/gal (kW.h/l) | Mean Atmospheric Conditions |
|--|--------------------------------|-----------------|-----------------------|-----------------------|---|
| MAXIMUM POWER AND FUEL CONSUMPTION | | | | | |
| Rated Engine Speed—(PTO speed—1066 rpm) | | | | | |
| 90.18 (67.25) | 2199 | 5.73 (21.67) | 0.445 (0.271) | 15.75 (3.10) | Fuel used during active exhaust regeneration - 0.60 gal (2.25 l) (see Note 1 p.2) |
| Rated Engine Speed—2100 rpm | | | | | |
| 89.87 (67.02) | 2099 | 5.57 (21.07) | 0.434 (0.264) | 16.15 (3.18) | |
| Standard Power Take-off Speed—(PTO speed—1001 rpm) | | | | | |
| 90.28 (67.32) | 2065 | 5.50 (20.82) | 0.427 (0.260) | 16.42 (3.23) | |
| Maximum Power (1 hour) | | | | | |
| 91.22 (68.02) | 1900 | 5.30 (20.07) | 0.407 (0.248) | 17.21 (3.39) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | |
|------------------|------|-----------------|------------------|-----------------|-----------------------|
| 90.18 (67.25) | 2199 | 5.73 (21.67) | 0.445 (0.271) | 15.75 (3.10) | Air temperature |
| 78.80 (58.76) | 2260 | 5.24 (19.83) | 0.466 (0.283) | 15.04 (2.96) | 73°F (23°C) |
| 59.50 (44.37) | 2278 | 4.38 (16.56) | 0.515 (0.313) | 13.60 (2.68) | Relative humidity |
| 40.10 (29.90) | 2296 | 3.57 (13.53) | 0.624 (0.380) | 11.22 (2.21) | 26% |
| 20.30 (15.14) | 2300 | 2.56 (9.68) | 0.883 (0.537) | 7.94 (1.56) | Barometer |
| 2.70 (2.01) | 2300 | 2.15 (8.14) | 5.578 (3.393) | 1.26 (0.25) | 28.90" Hg (97.87 kPa) |

Maximum Torque - 294 lb.-ft. (399 Nm) at 1499 rpm
Maximum Torque Rise - 36.1%
Torque rise at 1759 engine rpm - 23%
Power increase at 1900 engine rpm - 1.2%

TRACTOR SOUND LEVEL WITH CAB

| | Front Wheel Drive Engaged dB(A) | Disengaged dB(A) |
|---|---------------------------------------|---------------------|
| At no load in 4th (B1) gear | 75.0 | 74.4 |
| Transport speed-no load - 9th (C3) gear | | 78.8 |
| Bystander in 9th (C3) Gear | | 81.5 |

TIRES AND WEIGHT

Rear Tires - No., size, ply & psi (kPa)
Front Tires - No., size, ply & psi (kPa)
Height of Drawbar
Static Weight with operator - Rear
- Front
- Total

Tested Without Ballast

Two 18.4-34; 8; 12 (85)
Two 13.6-24; 8; 12 (85)
15.5 in (395 mm)
6175 lb (2801 kg)
3760 lb (1705 kg)
9935 lb (4506 kg)

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

Dates of tests: March 29- April 8, 2013

Manufacturer: Industrious John Deere, Boulevard Valdez Sanchez # 470, Saltillo, Coahuila CP25005 Mexico

FUEL, OIL and TIME: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8416 Fuel weight 7.007 lbs/gal (0.840 kg/l) Oil SAE 15W-40 API service classification CH-4 Transmission and hydraulic lubricant John Deere Hy-Gard fluid Front axle lubricant SAE 85W-140 API GL-5 Total time engine was operated: 10.0 hours

ENGINE: Make John Deere Diesel **Type** Four cylinder vertical with turbocharger and air to air aftercooler **Serial No.** *PE4045R026089* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.19" x 5.00" (106.5 mm x 127.0 mm) **Compression ratio** 19.0 to 1 **Displacement** 276 cu in (4525 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element and prestrainer **Fuel cooler** radiator for pump return fuel **Exhaust** regenerative particulate filter integrated within an underhood muffler **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan.

ENGINE OPERATING PARAMETERS: Fuel rate: 38.3 - 41.5 lb/h (17.4 - 18.8 kg/h) **High idle:** 2280 - 2320 rpm **Turbo boost:** nominal 17.4 - 20.3 psi (120 - 140 kPa) as measured 19.0 psi (131 kPa)

CHASSIS: Type front wheel assist **Serial No.** *1P06105DADM050351* **Tread width** rear 59.5" (1512 mm) to 79.2" (2012 mm) front 60.0" (1523 mm) to 80.0" (2033 mm) **Wheelbase** 92.5" (2450 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** first 1.80 (2.90) second 2.49 (4.00) third 3.19 (5.14) fourth 4.24 (6.82) fifth 5.85 (9.41) sixth 7.51 (12.09) seventh 10.16 (16.35) eighth 14.04 (22.59) ninth 18.03 (29.02) reverse 1.86 (3.00), 2.57 (4.14), 3.31 (5.32), 4.38 (7.05), 6.05 (9.73), 7.77 (12.51), 10.51 (16.92), 14.52 (23.37), 18.65 (30.02) **Clutch** dry disc operated by foot pedal **Brakes** wet disc operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2085 engine rpm or 1000 rpm at 2066 engine rpm **Unladen tractor mass** 9760 lb (4427 kg)

HYDRAULIC PERFORMANCE

CATEGORY: II
Quick Attach: No

| | |
|--|---|
| Maximum force exerted through whole range: | <u>Lift cylinders</u> 5722 lbs (25.5 kN) 2 x 70 mm 7304 lbs (32.5 kN) 2 x 80 mm |
| i) Maximum observed pressure: | 2938 psi (203 bar) <u>two outlet sets combined</u> |
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 21.2 GPM (80.1 l/min) |
| iii) Pump delivery rate at maximum hydraulic power: | 19.6 GPM (74.3 l/min) |
| Delivery pressure: | 2672 psi (184 bar) |
| Power: | 30.6 HP (22.8 kW) <u>single outlet set</u> |
| ii) Pump delivery rate at minimum pressure and rated engine speed: | 20.9 GPM (79.0 l/min) |
| iii) Pump delivery rate at maximum hydraulic power: | 19.3 GPM (73.1 l/min) |
| Delivery pressure: | 2608 psi (180 bar) |
| Power: | 29.4 HP (21.9 kW) |

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1. The manufacturer declares that the average time between active regenerations is 100 hours, while operated in Auto Filter Cleaning Mode, at rated speed, full PTO load, under steady state conditions.

NOTE 2: The performance figures on this report apply to tractors with chassis serial numbers 5xxxx 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).

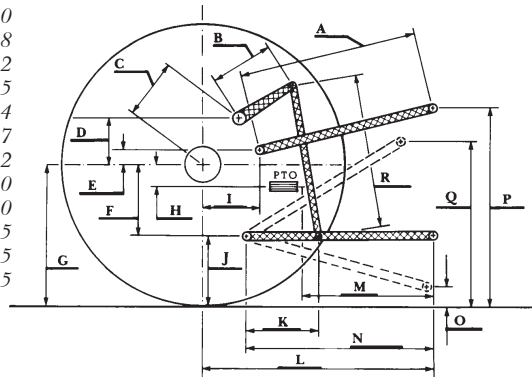
We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2055**, May 14, 2013.

Roger M. Hoy
Director

M.R. Riley
P.J. Jasa
J.D. Luck
Board of Tractor Test Engineers

HITCH DIMENSIONS AS TESTED—NO LOAD

| | inch | mm |
|---|------|------|
| A | 24.8 | 630 |
| B | 13.6 | 345 |
| C | 18.7 | 474 |
| D | 14.3 | 364 |
| E | 9.3 | 236 |
| F | 10.8 | 275 |
| G | 32.3 | 820 |
| H | 1.9 | 48 |
| I | 20.9 | 532 |
| J | 21.5 | 545 |
| K | 17.5 | 444 |
| L | 46.7 | 1187 |
| M | 24.9 | 632 |
| N | 33.1 | 840 |
| O | 9.0 | 230 |
| P | 45.5 | 1155 |
| Q | 38.0 | 965 |
| R | 30.5 | 775 |



JOHN DEERE 6105D DIESEL
Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln