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2016

Test 2143: John Deere 6105E

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 2143

JOHN DEERE 6105E DIESEL

12 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	D.E.F. Consumption Gal/hr (l/h)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1065 rpm)						
83.94 (62.59)	2200	5.44 (20.58)	0.454 (0.276)	15.44 (3.04)	0.18 (0.70)	Fuel used during active exhaust regeneration-0.73 gal (2.75 l) (see note 1, p.2)
Power at 2100 engine rpm						
89.92 (67.05)	2100	5.52 (20.89)	0.430 (0.262)	16.30 (3.21)	0.19 (0.75)	
Standard Power Take-off Speed (1000 rpm)						
91.22 (68.02)	2065	5.48 (20.75)	0.421 (0.256)	16.64 (3.28)	0.20 (0.77)	
Maximum Power (1 hour)						
93.30 (69.57)	1900	5.34 (20.22)	0.401 (0.244)	17.47 (3.44)	0.22 (0.83)	

VARYING POWER AND FUEL CONSUMPTION

83.94 (62.59)	2200	5.44 (20.58)	0.454 (0.276)	15.44 (3.04)	0.18 (0.70)	Air temperature
72.25 (53.88)	2225	4.95 (18.75)	0.480 (0.292)	14.59 (2.87)	0.16 (0.59)	77°F (25°C)
54.75 (40.82)	2248	4.07 (15.39)	0.520 (0.317)	13.47 (2.65)	0.10 (0.39)	Relative humidity
37.00 (27.59)	2277	3.37 (12.75)	0.638 (0.388)	10.99 (2.16)	0.05 (0.18)	24%
18.61 (13.88)	2299	2.60 (9.83)	0.978 (0.595)	7.17 (1.41)	0.00 (0.01)	Barometer
2.21 (1.65)	2300	2.00 (7.57)	6.339 (3.856)	1.11 (0.22)	0.00 (0.01)	28.74" Hg (97.33 kPa)

Maximum torque - 285 lb.-ft. (386 Nm) at 1400 rpm

Maximum torque rise - 42.0%

Torque rise at 1759 engine rpm - 34%

Power increase at 1900 engine rpm - 11.1%

TRACTOR SOUND LEVEL WITH CAB

	Front Wheel Drive Engaged dB(A)	Disengaged dB(A)
At no load in 4th(B1) gear	76.0	75.9
Transport in 12th (C4) gear		88.2
Bystander in 12th (C4) gear		82.5

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 460/85R34:**;12(85)

Two 340/85R24:**;12(85)

15.5 in (395 mm)

6550 lb (2971 kg)

4010 lb (1819 kg)

10560 lb (4790 kg)

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

Dates of tests: April 13 - 15, 2016

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

CONSUMABLE Fluids, OIL and TIME: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.8427 **Fuel weight** 7.008 lbs/gal (0.840 kg/l) **Diesel Exhaust Fluid (DEF)** 32% aqueous urea solution **DEF weight** 9.071 lbs/gal (1.087 kg/l) **Oil SAE 15W-40 API service classification** CJ-4 **Transmission and hydraulic lubricant** John Deere Hy-Gard fluid **Front axle lubricant** John Deere Hy-Gard fluid **Total time engine was operated:** 12.0 hours

ENGINE: Make John Deere **Diesel Type** Four cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment **Serial No.** *PE4045 U024170* **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.19 x 5.00" (106.5 mm x 127.0 mm) **Compression ratio** 16.8 to 1 **Displacement** 276 cu in (4525 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** two paper elements **Fuel cooler** radiator for pump return fuel **Exhaust** regenerative aftertreatment system consisting of DOC (diesel oxidation catalyst) and SCR (selective catalyst reduction) within a vertical muffler **Cooling medium temperature control** two thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate: 35.9 - 38.8 lb/h (16.3 - 17.6 kg/h) **High idle:** 2280-2320 rpm **Turbo boost:** nominal 18.1 - 20.3 psi (125 - 140 kPa) as measured 19.1 psi (132 kPa)

CHASSIS: Type front wheel assist **Serial No.** *1P06105ETF0001029* **Tread width** rear 59.5" (1512 mm) to 79.2" (2012 mm) front 60.0" (1523 mm) to 80.0" (2033 mm) **Wheelbase** 96.5" (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 2.57 (4.14) third 3.42 (5.50) fourth 3.68 (5.93) fifth 5.25 (8.45) sixth 6.21 (9.99) seventh 6.98 (11.23) eighth 8.85 (14.25) ninth 9.51 (15.31) tenth 11.77 (18.94) eleventh 13.56 (21.83) twelfth 18.03 (29.01) reverse 1.65 (2.65), 2.34 (3.77), 3.12 (5.02), 3.36 (5.41), 4.79 (7.71), 5.67 (9.12), 6.37 (10.25), 8.08 (13.00), 8.67 (13.96) 10.74 (17.28), 12.38 (19.92), 16.45 (26.47)

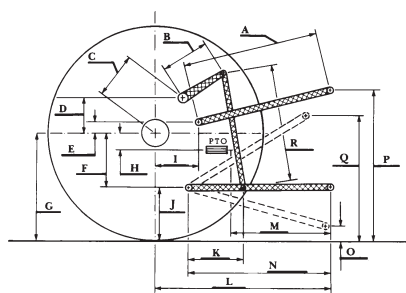
HYDRAULIC PERFORMANCE

CATEGORY: II
Quick Attach: No

Maximum force exerted through whole range:	5722 lbs (25.5 kN) 2 x 70 mm 7304 lbs (32.5 kN) 2 x 80 mm
i) Maximum observed pressure:	2791 psi (192 bar) two outlet sets combined
ii) Pump delivery rate at minimum pressure and rated engine speed:	21.2 GPM (80.3 l/min)
iii) Pump delivery rate at maximum hydraulic power:	20.4 GPM (77.1 l/min)
Delivery pressure:	2405 psi (166 bar)
Power:	28.6 HP (21.3 kW) single outlet set
ii) Pump delivery rate at minimum pressure and rated engine speed:	21.0 GPM (79.6 l/min)
iii) Pump delivery rate at maximum hydraulic power:	20.4 GPM (77.2 l/min)
Delivery pressure:	2199 psi (152 bar)
Power:	26.2 HP (19.5 kW)

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 6105E Diesel

Institute of Agriculture and Natural Resources
University of Nebraska-Lincoln

Clutch wet multiple disc hydraulically actuated by foot pedal **Brakes** wet multiple disc mechanically 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** 10385 lb (4710 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE 1. The manufacturer declares that the average time between active regenerations is 100 hours.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2143**, May 17, 2016

Roger M. Hoy
Director

M.F. Kocher
S.K. Pitla
P.J. Jasa
Board of Tractor Test Engineers