

# NEBRASKA TRACTOR TEST 2137

## JOHN DEERE 5055E DIESEL

### 9 SPEED

CHASSIS SERIAL NUMBERS EXXXXXX 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—545 rpm)</b>					
50.45 (37.62)	2102	3.86 (14.60)	0.536 (0.326)	13.08 (2.58)	Fuel used during active exhaust regeneration-0.18 gal (0.69 l) (see note 1, p.2)
<b>Standard Power Take-off Speed(540 rpm)</b>					
51.16 (38.15)	2083	3.87 (14.63)	0.529 (0.322)	13.24 (2.61)	
<b>Maximum Power (1 hour)</b>					
51.65 (38.51)	2002	3.78 (14.32)	0.513 (0.312)	13.65 (2.69)	

#### VARYING POWER AND FUEL CONSUMPTION

50.45 (37.62)	2102	3.86 (14.60)	0.536 (0.326)	13.08 (2.58)	Air temperature
43.90 (32.73)	2150	3.58 (13.54)	0.571 (0.347)	12.27 (2.42)	73°F (23°C)
33.32 (24.85)	2177	3.21 (12.16)	0.675 (0.411)	10.38 (2.04)	Relative humidity
22.54 (16.81)	2200	2.69 (10.18)	0.837 (0.509)	8.38 (1.65)	19%
11.33 (8.45)	2200	2.01 (7.60)	1.243 (0.756)	5.64 (1.11)	Barometer
1.67 (1.25)	2200	1.48 (5.62)	6.212 (3.779)	1.13 (0.22)	29.01"Hg (98.23 kPa)

Maximum Torque 168 lb.-ft. (228 Nm) at 1400 rpm  
 Maximum Torque Rise - 33.4%  
 Torque rise at 1682 engine rpm - 26%  
 Power increase at 2002 engine rpm - 2%

#### TRACTOR SOUND LEVEL WITHOUT CAB

	Front Wheel Drive Engaged	Disengaged dB(A)
At no load in 5th(B2) gear	88.3	88.1
Transport speed-no load-9th(C3) gear		90.5
Bystander in 9th (C3) gear		80.2

#### 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 16.9-28; 6; 12 (85)  
 Two 9.5-24; 6; 16 (110)  
 17.5 in (445 mm)  
 3410 lb (1547 kg)  
 2545 lb (1154 kg)  
 5955 lb (2701 kg)

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

**Dates of tests:** April 4 - 13, 2016

**Manufacturer:** John Deere Commercial Products Inc., Grovetown Operations, P.O. Box 15458 Augusta Ga. USA, 30919-1458

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8417 Fuel weight 7.008 lbs/gal (0.840 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: 10.5 hours

**ENGINE:** Make John Deere Diesel Type three cylinder vertical with turbocharger and air to air intercooler Serial No. \*PY3029H031072\* Crankshaft lengthwise Rated engine speed 2100 Bore and stroke 4.19" x 4.33" (106.5 mm x 110.0 mm) Compression ratio 17.8 to 1 Displacement 179 cu in (2938 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 Fuel filter one paper element Fuel cooler radiator for pump return fuel Exhaust regenerative aftertreatment system consisting of DOC (diesel oxidation catalyst) and DPF (diesel particulate filter) integrated within an underhood muffler with vertical exhaust Cooling medium temperature control one thermostat

**ENGINE OPERATING PARAMETERS:** Fuel rate: 25.1 - 27.7 lb/h (11.4 - 12.6 kg/h) High idle: 2190 - 2210 rpm Turbo boost: nominal 14.5 - 17.4 psi (100 - 120 kPa) as measured 16.3 psi (112 kPa)

**CHASSIS:** Type front wheel assist Serial No. \*1PY5055EPF4130133\* Tread width rear 55.8" (1417 mm) to 71.7" (1821 mm) front 52.8" (1340 mm) to 75.0" (1905 mm) Wheelbase 80.7" (2050 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.43 (2.30) second 1.94 (3.13) third 2.68 (4.31) fourth 3.63 (5.84) fifth 4.94 (7.95) sixth 6.79 (10.93) seventh 9.26 (14.91) eighth 12.61 (20.30) ninth 17.34 (27.91) reverse 2.12 (3.41), 5.38 (8.65), 13.73 (22.09) Clutch single dry disc operated by foot pedal Brakes single wet disc hydraulically actuated by two foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 2083 engine rpm Unladen tractor mass 5780 lb (2622 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: II

Quick attach: None

OECD Static test

Maximum force exerted through whole range:	3591 lbs	(16.0 kN)
i) Sustained pressure of the open relief valve:	2881 psi	(199 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	11.7 GPM	(44.1 l/min)
iii) Pump delivery rate at maximum hydraulic power:	10.6 GPM	(40.0 l/min)
Delivery pressure:	2520 psi	(174 bar)
Power:	15.5 HP	(11.6 kW)

## THREE POINT HITCH PERFORMANCE

Observed maximum pressure psi. (bar)	2796 (193)
Location:	remote outlet
Hydraulic oil temperature: °F (°C)	185 (85)
Location:	hydraulic sump
Category:	II
Quick attach:	none

### SAE Static Test—System pressure 2480 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	6633	5486	5067	4734	3978
" " " " " (kN)	(29.5)	(24.4)	(22.5)	(21.1)	(17.7)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

**NOTE 1.** The manufacturer declares that the average time between active regenerations is 50 hours. A 4% power increase was observed during the active exhaust regeneration.

**NOTE 2:** The performance data on this report applies to tractors with chassis serial numbers that end with EXXXXXXX and higher.

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

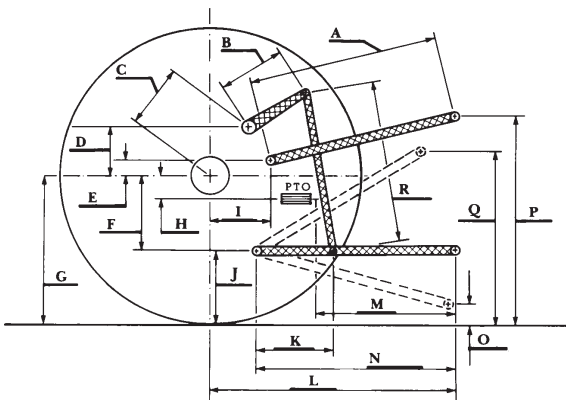
We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **2137**, May 16, 2016.

Roger M. Hoy  
Director

M.F. Kocher  
J.D. Luck  
P.J. Jasa  
Board of Tractor Test Engineers

	SAE Test		OECD Test	
	inch	mm	inch	mm
A	23.3	590	23.5	597
B	11.0	280	11.0	280
C	14.0	355	14.0	355
D	12.2	310	12.2	310
E	11.1	282	11.1	282
F	6.5	166	6.5	166
G	26.4	670	26.4	670
H	0.2	4	0.2	4
I	15.1	384	15.1	384
J	19.9	504	19.9	504
K	16.1	409	16.1	409
L	38.8	985	38.8	985
M	22.0	559	22.0	559
N	32.5	825	32.5	825
O	8.0	203	8.0	203
P	38.9	987	43.9	1114
Q	32.5	825	32.5	825
R	21.2	540	21.2	540

**HITCH DIMENSIONS AS TESTED - NO LOAD**



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