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2009

Test 1955 John Deere 5055E Diesel

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1955

JOHN DEERE 5055E DIESEL

9 SPEED

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—545 rpm)					
47.59 (35.49)	2400	3.21 (12.15)	0.475 (0.289)	14.83 (2.92)	
Standard Power Take-off Speed(540 rpm)					
48.43 (36.12)	2375	3.21 (12.15)	0.466 (0.284)	15.09 (2.97)	
Maximum Power (1 hour)					
49.95 (37.25)	2100	3.00 (11.37)	0.423 (0.257)	16.63 (3.28)	

VARYING POWER AND FUEL CONSUMPTION

47.59 (35.49)	2400	3.21 (12.15)	0.475 (0.289)	14.83 (2.92)	Air temperature
42.78 (31.90)	2539	3.11 (11.76)	0.511 (0.311)	13.77 (2.71)	75°F(24°C)
32.42 (24.17)	2567	2.60 (9.82)	0.563 (0.343)	12.49 (2.46)	Relative humidity
21.81 (16.27)	2584	2.10 (7.96)	0.678 (0.413)	10.37 (2.04)	24%
11.03 (8.22)	2615	1.32 (5.00)	0.842 (0.512)	8.36 (1.65)	Barometer
0.68 (0.51)	2625	0.87 (3.31)	8.974 (5.459)	0.78 (0.15)	28.97"Hg (98.10 kPa)

Maximum Torque 136 lb.-ft. (184 Nm) at 1451 rpm
 Maximum Torque Rise -30.9%
 Torque rise at 1900 rpm -22%
 Power increase at 2100 rpm -5%

TRACTOR SOUND LEVEL WITHOUT CAB

	Front Wheel Drive	
	Engaged	Disengaged dB(A)
At no load in 5th(B2) gear	92.5	92.4
Transport speed-no load-9th(C3) gear		92.2
Bystander in 9th(C3) gear		81.4

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)
 16.5 in (420 mm)
 3420 lb (1551 kg)
 2260 lb (1025 kg)
 5680 lb (2576 kg)

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

Dates of tests: September 29 - October 7, 2009

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) 0.8450 Fuel weight 7.036 lbs/gal (0.843 kg/l) Oil SAE 15W40 API service classification CJ-4 Transmission and hydraulic 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 Serial No. *PY3029T139742* Crankshaft lengthwise Rated engine speed 2400 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 Fuel filter one paper element Muffler underhood Exhaust vertical Cooling medium temperature control one thermostat

ENGINE OPERATING PARAMETERS: Fuel rate: 21.5 - 23.6 lb/h (9.7 - 10.7 kg/h) High idle: 2575 - 2650 rpm Turbo boost: nominal 12.8 - 13.8 psi (88 - 95 kPa) as measured 13.4 psi (92 kPa)

CHASSIS: Type front wheel assist Serial No. *PY5055U000483* Tread width rear 55.7" (1415 mm) to 71.5" (1815 mm) front 56.3" (1430 mm) to 80.7" (2050 mm) Wheelbase 80.3" (2040 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.27 (2.05) second 1.84 (2.96) third 2.77 (4.45) fourth 3.57 (5.74) fifth 5.15 (8.28) sixth 7.75 (12.47) seventh 8.26 (13.29) eighth 11.92 (19.18) ninth 17.94 (28.87) reverse 2.14 (3.44), 5.99 (9.64), 13.85 (22.29) 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 2376 engine rpm Unladen tractor mass 5505 lb (2497 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:	2860 psi	(197 bar)
ii) Pump delivery rate at minimum pressure and rated engine speed:	11.9 GPM	(45.0 l/min)
iii) Pump delivery rate at maximum hydraulic power:	12.0 GPM	(45.4 l/min)
Delivery pressure:	2551 psi	(176 bar)
Power:	17.9 HP	(13.3 kW)

THREE POINT HITCH PERFORMANCE

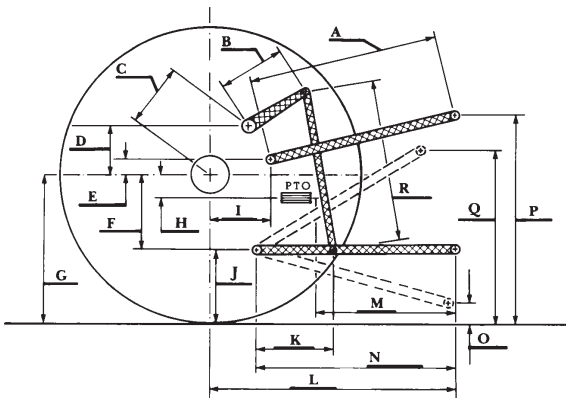
Observed maximum pressure psi. (bar)	2796 (193)
Location:	remote outlet
Hydraulic oil temperature: °F (°C)	185 (85)
Location:	hydraulic sump
Category:	II
Quick attach:	none

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)

	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



REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

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 124°F (51°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1955, December 14, 2009.

Roger M. Hoy
Director

M.F. Kocher
V.I. Adamchuk
J.A. Smith
Board of Tractor Test Engineers



John Deere 5055E Diesel