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2009

## Test 1954: John Deere 5055D Diesel

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1954

## JOHN DEERE 5055D DIESEL

### 8 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—565 rpm)					
47.39 (35.34)	2300	2.98 (11.29)	0.443 (0.269)	15.89 (3.13)	
Standard Power Take-off Speed(540 rpm)					
50.17 (37.41)	2199	3.00 (11.35)	0.421 (0.256)	16.73 (3.30)	
Maximum Power (1 hour)					
51.22 (38.19)	2100	2.97 (11.25)	0.408 (0.248)	17.24 (3.40)	

#### VARYING POWER AND FUEL CONSUMPTION

47.39 (35.34)	2300	2.98 (11.29)	0.443 (0.269)	15.89 (3.13)	Air temperature
42.08 (31.38)	2401	2.81 (10.63)	0.469 (0.286)	14.99 (2.95)	75°F (24°C)
31.96 (23.83)	2431	2.38 (9.01)	0.524 (0.319)	13.42 (2.64)	Relative humidity
21.51 (16.04)	2455	1.83 (6.94)	0.600 (0.365)	11.72 (2.31)	35%
10.88 (8.12)	2485	1.19 (4.50)	0.768 (0.467)	9.16 (1.80)	Barometer
0.77 (0.57)	2501	0.83 (3.14)	7.595 (4.620)	0.93 (0.18)	28.79"Hg (97.50 kPa)

Maximum Torque - 140 lb.-ft. (190 Nm) at 1499 rpm  
Maximum Torque Rise - 29.7%  
Torque rise at 1800 rpm - 24%  
Power increase at 2100 rpm - 8%

#### TRACTOR SOUND LEVEL WITHOUT CAB

	dB(A)
At no load in 4th(A4) gear	91.4
Transport speed - no load-8th(B4) gear	91.1
Bystander in 8th (B4) gear	80.4

#### 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 7.50-16; 6; 24 (165)  
18.0 in (455 mm)  
3050 lb (1383 kg)  
1790 lb (812 kg)  
4840 lb (2195 kg)

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

**Dates of tests:** September 24 - October 5, 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 9.5 hours

**ENGINE:** Make John Deere Diesel Type three cylinder vertical with turbocharger Serial No. \*PY3029T137084\* Crankshaft lengthwise Rated engine speed 2300 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: 21.1 - 23.1 lb/h (9.6 - 10.5 kg/h) High idle: 2450 - 2550 rpm Turbo boost: nominal 10.9 - 12.3 psi (75 - 85 kPa) as measured 11.6 psi (80 kPa)

**CHASSIS:** Type standard Serial No. \*PY5055B000226\* Tread width rear 55.7" (1415 mm) to 71.7" (1821 mm) front 57.0" (1447 mm) to 82.0" (2082 mm) Wheelbase 76.8" (1950 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 1.87 (3.01) second 2.66 (4.28) third 3.72 (5.99) fourth 5.29 (8.51) fifth 6.57 (10.58) sixth 9.35 (15.05) seventh 13.13 (21.13) eighth 18.61 (29.95) reverse 2.25 (3.62), 3.20 (5.15), 4.49 (7.23), 6.38 (10.26) Clutch single dry disc operated by foot pedal Brakes dual wet disc mechanically operated by two foot pedals which can be locked together Steering hydrostatic Power take-off 540 rpm at 2199 engine rpm Unladen tractor mass 4665 lb (2116 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 2828 lbs (12.58 kN)

i) Sustained pressure of the open relief valve: 2852 psi (197 bar)

ii) Pump delivery rate at minimum pressure and rated engine speed: 11.7 GPM (44.3 l/min)

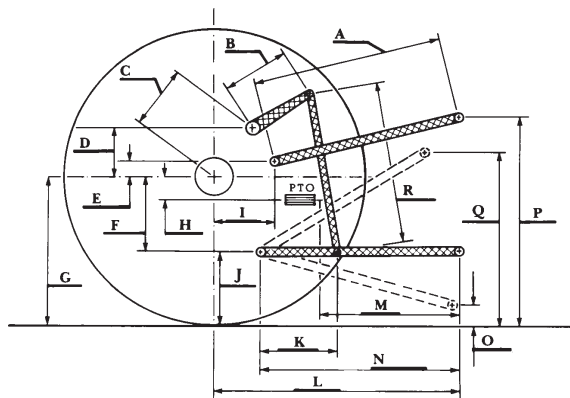
iii) Pump delivery rate at maximum hydraulic power: 11.2 GPM (42.4 l/min)

Delivery pressure: 2617 psi (180 bar)

Power: 17.1 HP (12.7 kW)

### HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	23.0	583
B	11.4	290
C	13.1	334
D	12.1	308
E	13.6	345
F	4.9	125
G	26.4	670
H	0.4	11
I	13.6	345
J	21.5	545
K	15.8	401
L	36.1	918
M	21.9	555
N	29.9	760
O	7.9	200
P	45.5	1155
Q	35.9	912
R	20.9	530



**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 138°F (59°C).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1954, January 5, 2010.

Roger M. Hoy  
Director

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



**John Deere 5055D Diesel**