1-1-1980

Test 1361: John Deere 4240 Syncro Range Diesel 8-Speed

Tractor Museum
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NEBRASKA TRACTOR TEST 1361 — JOHN DEERE 4240 SYNCRO RANGE DIESEL 8 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temperature °F (°C) Cooling medium	Air wet bulb	Air dry bulb	Barometer inch Hg (kPa)
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1002 rpm)								
110.81 (82.63)	2200	7.822 (29.608)	0.493 (0.300)	14.17 (2.791)	192 (88.8)	67 (19.4)	75 (23.9)	29.060 (98.131)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
98.09 (73.15)	2290	7.167 (27.130)	0.510 (0.310)	13.69 (2.696)	187 (86.1)	67 (19.4)	75 (23.9)	....
0.00 (0.00)	2368	2.853 (10.800)	....	....	177 (80.6)	67 (19.4)	75 (23.6)	....
49.95 (37.25)	2339	4.825 (18.266)	0.675 (0.410)	10.35 (2.039)	183 (83.9)	67 (19.4)	75 (23.6)	....
111.65 (83.26)	2200	7.867 (29.781)	0.492 (0.299)	14.19 (2.796)	192 (88.6)	68 (19.7)	75 (23.6)	....
25.28 (18.85)	2354	3.811 (14.427)	1.053 (0.640)	6.63 (1.307)	178 (81.1)	68 (20.0)	75 (23.9)	....
74.42 (55.49)	2319	5.917 (22.397)	0.555 (0.338)	12.58 (2.478)	185 (85.0)	68 (20.0)	75 (23.9)	....
Av 59.90	**2312**	**5.407**	**0.630**	**11.08**	**184**	**67**	**75**	**29.047**
Av (44.67)		***(20.467)***	***(0.383)***	***(2.183)***	***(84.2)***	***(19.7)***	***(23.8)***	***(98.086)***

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank-shaft speed rpm	Slip %	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 4th Gear											
93.00 (69.35)	7118 (31.66)	4.90 (7.89)	2201	5.97	7.752 (29.345)	0.582 (0.354)	12.00 (2.363)	192 (88.6)	73 (22.5)	79 (26.1)	29.070 (98.165)
75% of Pull at Maximum Power—Ten Hours 4th Gear											
75.33 (56.17)	5401 (24.03)	5.23 (8.42)	2306	4.22	6.567 (24.858)	0.609 (0.370)	11.47 (2.259)	186 (85.6)	60 (15.7)	76 (24.7)	29.066 (98.152)
50% of Pull at Maximum Power—Two Hours 4th Gear											
51.82 (38.65)	3611 (16.06)	5.38 (8.66)	2335	2.69	5.281 (19.992)	0.712 (0.433)	9.81 (1.933)	189 (86.9)	75 (23.9)	91 (32.8)	28.760 (97.118)
50% of Pull at Reduced Engine Speed—Two Hours 6th Gear											
51.87 (38.68)	3614 (16.08)	5.38 (8.66)	1436	2.73	3.778 (14.300)	0.508 (0.309)	13.73 (2.705)	189 (87.2)	76 (24.2)	93 (33.9)	28.725 (97.000)
MAXIMUM POWER IN SELECTED GEARS											
86.57 (64.56)	12240 (54.45)	2.65 (4.27)	2240	14.78	2nd Gear			186 (85.3)	61 (16.1)	65 (18.3)	29.050 (98.097)
93.19 (69.49)	9393 (41.78)	3.72 (5.99)	2198	8.25	3rd Gear			190 (87.5)	69 (20.6)	74 (23.3)	29.060 (98.131)
95.40 (71.14)	7305 (32.50)	4.90 (7.88)	2200	6.01	4th Gear			189 (87.2)	62 (16.7)	66 (18.9)	29.060 (98.131)
94.28 (70.31)	5696 (25.34)	6.21 (9.99)	2200	4.45	5th Gear			194 (89.7)	70 (21.1)	79 (26.1)	28.820 (97.321)
93.21 (69.51)	4266 (18.98)	8.19 (13.19)	2201	3.29	6th Gear			194 (90.0)	71 (21.7)	81 (27.2)	28.820 (97.321)

LUGGING ABILITY IN 4th GEAR

Crankshaft Speed rpm	2200	1981	1760	1542	1317	1092	874
Pull—lbs (kN)	7305 (32.50)	7936 (35.30)	8411 (37.42)	8640 (38.43)	8731 (38.84)	8752 (38.93)	8715 (38.76)
Increase in Pull %	0	9	15	18	20	20	19
Power—Hp (kW)	95.40 (71.14)	92.77 (69.18)	86.88 (64.79)	77.94 (58.12)	67.15 (50.07)	55.81 (41.62)	44.41 (33.12)
Speed—Mph (km/h)	4.90 (7.88)	4.38 (7.05)	3.87 (6.23)	3.38 (5.44)	2.88 (4.64)	2.39 (3.85)	1.91 (3.08)
Slip %	6.01	6.63	7.04	7.31	7.58	7.58	7.72

Department of Agricultural Engineering

Dates of Test: August 20 to September 6, 1980

Manufacturer: JOHN DEERE WATERLOO TRACTOR WORKS, P.O. Box 270, Waterloo, Iowa 50704

FUEL, OIL AND TIME: Fuel No. 2 Diesel **Cetane No.** 47.9 (rating taken from oil company's inspection data) **Specific gravity converted to 60°/60° *(15°/15°)*** 0.8386 **Fuel weight** 6.982 lbs/gal *(0.837 kg/l)* **Oil SAE** 30 **API service classification** CD, CC and SD **To motor** 4.171 gal *(15.787 l)* **Drained from motor** 3.861 gal *(14.614 l)* **Transmission and final drive lubricant** John Deere Hy-Gard **Total time engine was operated** 36.0 hours

ENGINE Make John Deere Diesel **Type** six cylinder vertical **Serial No.** 6466DR-01 137422RG **Crankshaft** lengthwise **Rated rpm** 2200 **Bore and stroke** 4.56″ × 4.75″ *(115.8 mm × 120.6 mm)* **Compression ratio** 17.0 to 1 **Displacement** 466 cu in *(7636 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements with dust evacuator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for transmission and hydraulic oil **Muffler** vertical **Cooling medium temperature control** two thermostats.

CHASSIS: Type standard with duals **Serial No.** 4240W-019552R **Tread width** rear 60″ *(1524 mm)* to 118.4″ *(3004 mm)* front 56″ *(1422 mm)* to 82″ *(2083 mm)* **Wheel base** 106.7″ *(2709 mm)* **Center of gravity** (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 30.1″ *(765 mm)* Vertical distance above roadway 40.1″ *(1019 mm)* Horizontal distance from center of rear wheel tread 0.1″ *(1.0 mm)* to the left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Advertised speeds mph *(km/h)*** first 1.9 *(3.1)* second 3.1 *(4.9)* third 4.1 *(6.6)* fourth 5.2 *(8.4)* fifth 6.5 *(10.5)* sixth 8.5 *(13.7)* seventh 11.1 *(17.9)* eighth 18.1 *(29.1)* reverse 4.0 *(6.4)*, 6.3 *(10.2)* **Clutch** wet multiple disc hydraulically power actuated and operated by foot pedal **Brakes** wet disc hydraulically power actuated and operated by two foot pedals which can be locked together **Steering** hydrostatic **Turning radius** (on concrete surface with brake applied) right 143.9″ *(3.66 m)* left 143.9″ *(3.66 m)* (on concrete surface without brake) right 161.8″ *(4.11 m)* left 161.8″ *(4.11 m)* **Turning space diameter** (on concrete surface with brake applied) right 293.3″ *(7.45 m)* left 293.3″ *(7.45 m)* (on concrete surface without brake) right 334.6″ *(8.50 m)* left 334.6″ *(8.50 m)* **Power take-off** 1002 rpm at 2200 engine rpm and 540 rpm at 2200 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
Maximum Available Power—Two Hours	96.0
75% of Pull at Maximum Power—Ten Hours	96.0
50% of Pull at Maximum Power—Two Hours	96.5
50% of Pull at Reduced Engine Speed—Two Hours	91.0
Bystander in 8th gear	90.5

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi *(kPa)*	Four 18.4-34; 6; 12 *(85)*	Four 18.4-34; 6; 12 *(85)*
Ballast	—Liquid (each inner)	995 lb *(451 kg)*	None
	—Cast Iron (each)	110 lb *(50 kg)*	None
Front Tires	—No., size, ply & psi *(kPa)*	Two 10.00-16; 6; 32 *(220)*	Two 10.00-16; 6; 32 *(220)*
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	None	None
Height of Drawbar		21 in *(535 mm)*	21 in *(535 mm)*
Static Weight with Operator—	Rear	10830 lb *(4912 kg)*	8400 lb *(3810 kg)*
	Front	3410 lb *(1547 kg)*	3410 lb *(1547 kg)*
	Total	14240 lb *(6459 kg)*	11810 lb *(5357 kg)*

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure. Temperature at injection pump return was 154°F *(67.7°C)*. Five gears were chosen between 15% slip and 10 mph *(16.1 km/h)*.

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1361.**

LOUIS I. LEVITICUS
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John Deere 4240 Syncro Range Diesel

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