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

Nebraska Tractor Test Lab

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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			Temperature °F (°C)			Barometer inch Hg (kPa)	
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb		
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 Av	59.90 (44.67)	2312	5.407 (20.467)	0.630 (0.383)	11.08 (2.183)	184 (84.2)	67 (19.7)	75 (23.8)	29.047 (98.086)

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption		Temp. °F (°C)				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 classifica-**
tion 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 op-**
erated 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 **Dis-**
placement 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 ex-
changer for crankcase oil, radiator for transmis-
sion 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 for-
ward 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** selec-
tive 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 hydra-
ulically power actuated and operated by foot
pedal **Brakes** wet disc hydraulically power ac-
tuated 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 con-
crete 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)
	—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)
	—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
Engineer-in Charge

G. W. STEINBRUEGGE, Chairman
W. E. SPLINTER
K. VON BARGEN
Board of Tractor Test Engineers



John Deere 4240 Syncro Range Diesel