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## Test 1267: John Deere 4040 Diesel

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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# NEBRASKA TRACTOR TEST 1267 — JOHN DEERE 4040 DIESEL

## 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)								
90.80 (67.71)	2200	6.732 (25.483)	0.516 (0.314)	13.49 (2.657)	192 (88.8)	51 (10.4)	75 (23.9)	28.980 (97.861)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
79.90 (59.58)	2280	6.038 (22.856)	0.526 (0.320)	13.23 (2.607)	189 (87.2)	52 (10.8)	76 (24.2)	..... .....
0.00 (0.00)	2364	2.455 (9.292)	..... .....	..... .....	182 (83.1)	51 (10.6)	75 (23.9)	..... .....
40.89 (30.49)	2327	4.130 (15.634)	0.704 (0.428)	9.90 (1.950)	186 (85.3)	52 (10.8)	76 (24.2)	..... .....
91.30 (68.08)	2200	6.800 (25.741)	0.519 (0.316)	13.43 (2.645)	191 (88.3)	52 (10.8)	75 (23.9)	..... .....
20.66 (15.40)	2351	3.295 (12.471)	1.111 (0.676)	6.27 (1.235)	184 (84.4)	51 (10.6)	75 (23.9)	..... .....
60.44 (45.07)	2302	4.961 (18.780)	0.572 (0.348)	12.18 (2.400)	186 (85.6)	52 (11.1)	76 (24.4)	..... .....
Av 48.86 Av (36.44)	2304	4.613 (17.463)	0.658 (0.400)	10.59 (2.087)	186 (85.6)	51 (10.8)	75 (24.1)	29.000 (97.929)

## DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption		Hp.hr/gal	Cool- ing med	Temp. °F (°C)		Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 7th (B-2) Gear											
74.83 (55.80)	5301 (23.58)	5.29 (8.52)	2199	6.43	6.657 (25.201)	0.620 (0.377)	11.24 (2.214)	188 (86.4)	50 (9.7)	53 (11.7)	28.410 (95.936)
75% of Pull at Maximum Power—Ten Hours 7th (B-2) Gear											
61.70 (46.01)	4098 (18.23)	5.65 (9.09)	2306	4.77	5.627 (21.302)	0.635 (0.386)	10.96 (2.160)	185 (85.1)	33 (0.4)	39 (4.1)	28.894 (97.571)
50% of Pull at Maximum Power—Two Hours 7th (B-2) Gear											
42.62 (31.78)	2751 (12.24)	5.81 (9.35)	2330	3.03	4.630 (17.525)	0.757 (0.460)	9.21 (1.814)	180 (82.2)	32 (0.0)	36 (1.9)	28.915 (97.642)
50% of Pull at Reduced Engine Speed—Two Hours 12th (B-4) Gear											
42.22 (31.48)	2729 (12.14)	5.80 (9.34)	1409	3.11	3.302 (12.498)	0.545 (0.331)	12.79 (2.519)	176 (80.0)	35 (1.7)	40 (4.2)	28.930 (97.692)
MAXIMUM POWER IN SELECTED GEARS											
67.57 (50.39)	8936 (39.75)	2.84 (4.56)	2290	14.88	3rd (A-3) Gear			178 (81.1)	29 (-1.6)	29 (-1.6)	29.310 (98.975)
74.28 (55.39)	6848 (30.46)	4.07 (6.55)	2200	8.89	5th (B-1) Gear			187 (86.1)	47 (8.3)	52 (11.1)	28.470 (96.139)
76.06 (56.72)	5804 (25.82)	4.91 (7.91)	2200	6.95	6th (C-1) Gear			188 (86.4)	46 (7.8)	51 (10.6)	28.480 (96.173)
77.02 (57.43)	5460 (24.29)	5.29 (8.51)	2199	6.54	7th (B-2) Gear			187 (86.1)	45 (7.2)	50 (10.0)	28.520 (96.308)
77.85 (58.05)	4591 (20.42)	6.36 (10.23)	2201	5.35	8th (C-2) Gear			187 (86.1)	47 (8.3)	52 (11.1)	28.450 (96.071)
76.81 (57.28)	4106 (18.26)	7.02 (11.29)	2200	4.85	9th (B-3) Gear			187 (86.1)	48 (8.9)	52 (11.1)	28.430 (96.004)
LUGGING ABILITY IN RATED GEAR 7th (B-2)											
Crankshaft Speed rpm				2199	1975	1766	1538	1314	1096		
Pull—lbs (kN)				5460 (24.29)	5994 (26.66)	6141 (27.32)	6180 (27.49)	6260 (27.85)	6162 (27.41)		
Increase in Pull %				0	10	12	13	15	13		
Power—Hp (kW)				77.02 (57.43)	75.30 (56.15)	68.82 (51.32)	60.28 (44.95)	52.07 (38.83)	42.80 (31.92)		
Speed—Mph (km/h)				5.29 (8.51)	4.71 (7.58)	4.20 (6.76)	3.66 (5.89)	3.12 (5.02)	2.60 (4.19)		
Slip %				6.54	7.42	7.69	7.56	7.83	7.56		

Department of Agricultural Engineering

Dates of Test: November 12 to 28, 1977

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

**FUEL, OIL AND TIME:** Fuel No. 2 Diesel  
Cetane No. 50.8 (rating taken from oil company's  
typical inspection data) **Specific gravity converted  
to 60°/60° (15°/15°)** 0.8366 **Fuel weight** 6.966 lbs/  
gal (0.837 kg/l) **Oil SAE 30 API service classifi-  
cation** CD, CC and SD **To motor** 3.769 gal  
(14.267 l) **Drained from motor** 3.463 gal  
(13.109 l) **Transmission and final drive lubri-  
cant** John Deere Hy-Gard **Transmission and Hyd-  
raulic Oil** **Total time engine was operated** 50  
hours

**ENGINE Make** John Deere Diesel **Type** 6 cyl-  
inder vertical **Serial No.** 6404DR-25 560262RG  
**Crankshaft** lengthwise **Rated rpm** 2200 **Bore  
and stroke** 4.25" × 4.75" (108.0 mm × 120.6 mm)  
**Compression ratio** 16.2 to 1 **Displacement** 404 cu  
in (6625 ml) **Cranking system** 12 volt **Lubrica-  
tion** pressure **Air cleaner** paper primary and  
safety elements with dust evacuator **Oil filter** one  
screw-on cartridge **Oil cooler** engine coolant heat  
exchanger for crankcase oil, radiator for transmis-  
sion and hydraulic oil **Fuel filter** one snap-on car-  
tridge **Muffler** vertical **Cooling medium temper-  
ature control** two thermostats.

**CHASSIS: Type** standard **Serial No.** 4040H  
001113R **Tread width** rear 60" (1524 mm) to  
118.3" (3004 mm) front 51.8" (1314 mm) to 71.8"  
(1824 mm) **Wheel base** 104" (2642 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 32.1" (815  
mm) Vertical distance above roadway 38.2" (971  
mm) Horizontal distance from center of rear wheel  
tread 0.06" (1 mm) to the left **Hydraulic control  
system** direct engine drive **Transmission** selec-  
tive gear fixed ratio with partial (2) range operator  
controlled power shift **Advertised speeds mph  
(km/h)** first 2.0 (3.1) second 2.5 (4.0) third 3.2 (5.2)  
fourth 4.1 (6.6) fifth 4.5 (7.2) sixth 5.3 (8.6)  
seventh 5.7 (9.2) eighth 6.8 (10.9) ninth 7.4 (11.9)  
tenth 8.2 (13.1) eleventh 8.8 (14.1) twelfth 9.4  
(15.1) thirteenth 10.4 (16.7) fourteenth 11.2 (17.9)  
fifteenth 13.5 (21.7) sixteenth 17.1 (27.5) reverse  
3.1 (5.0), 4.0 (6.4), 7.2 (11.6), 8.5 (13.7), 9.1 (14.7),  
10.8 (17.4) **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  
142.9" (3.63 m) left 142.9" (3.63 m) (on concrete  
surface without brake) right 158.5" (4.03 m) left  
158.5" (4.03 m) **Turning space diameter** (on con-  
crete surface with brake applied) right 295.8"  
(7.51 m) left 295.8" (7.51 m) (on concrete surface  
without brake) right 326.9" (8.30 m) left 326.9"  
(8.30 m) **Power take-off** 1002 rpm at 2200 engine  
rpm, 540 rpm at 2200 engine rpm.

TRACTOR SOUND LEVEL WITH CAB		dB(A)
Maximum Available Power—Two Hours		79.5
75% of Pull at Maximum Power—Ten Hours		79.0
50% of Pull at Maximum Power—Two Hours		79.0
50% of Pull at Reduced Engine Speed—Two Hours		76.5
Bystander in 16th (D-4) gear		92.0
<b>TIRES, BALLAST AND WEIGHT</b>		
<b>Rear Tires</b>	—No., size, ply & psi (kPa)	Two 18.4-34; 8; 18 (120)
Ballast	—Liquid (each)	382 lb (173 kg)
	—Cast Iron (each)	140 lb (64 kg)
<b>Front Tires</b>	—No., size, ply & psi (kPa)	Two 10.00-16; 6; 32 (220)
Ballast	—Liquid (each)	None
	—Cast Iron (each)	60 lb (27 kg)
<b>Height of drawbar</b>		18.5 in (470 mm)
<b>Static weight with operator</b>	—rear	8755 lb (3971 kg)
	front	3300 lb (1497 kg)
	total	12055 lb (5468 kg)
		7710 lb (3498 kg)
		3180 lb (1443 kg)
		10890 lb (4941 kg)

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

**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 155°F (68.5°C). Six gears were chosen between 15% slip and 15 mph (24.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1267**.

LOUIS I. LEVITICUS  
Engineer-in Charge

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



**John Deere 4040 Diesel**