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Nebraska Summary 492: Fendt 818 Vario Diesel

Nebraska Tractor Test Lab

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SUMMARY OF OECD TEST 2263—NEBRASKA SUMMARY 492

FENDT 818 VARIO DIESEL

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-1103 rpm)					
161.3 (120.3)	2099	10.28 (38.90)	0.440 (0.267)	15.69 (3.09)	
Standard Power Take-off Speed (1000 rpm)					
169.2 (126.2)	1903	10.17 (38.49)	0.414 (0.252)	16.64 (3.28)	
Maximum Power (2 hours)					
171.1 (127.6)	1796	9.95 (37.65)	0.401 (0.244)	17.20 (3.39)	

VARYING POWER AND FUEL CONSUMPTION

161.3 (120.3)	2099	10.28 (38.90)	0.440 (0.267)	15.69 (3.09)	Air temperature
138.8 (103.5)	2123	9.12 (34.53)	0.453 (0.276)	15.22 (3.00)	66°F (19°C)
105.0 (78.3)	2144	7.21 (27.29)	0.473 (0.288)	14.57 (2.87)	Relative humidity
70.6 (52.7)	2165	5.34 (20.23)	0.522 (0.317)	13.22 (2.60)	30%
36.2 (27.0)	2186	3.60 (13.62)	0.686 (0.417)	10.05 (1.98)	Barometer
--	2203	1.99 (7.53)	--	--	29.7" Hg (100.7 kPa)
--			--	--	
Maximum torque - 583 lb.-ft. (790 Nm) at 1400 rpm					
Maximum torque rise - 44.2%					
Torque rise at 1700 engine rpm - 29%					

DRAWBAR PERFORMANCE (Unballasted—Front Drive Engaged) FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F cool- ing med	°C Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—Low Range									
139.7 (104.2)	11260 (50.09)	4.65 (7.49)	2101	2.8	0.508 (0.309)	13.76 (2.71)	162 (72)	61 (16)	29.6 (100.3)
75% of Pull at Maximum Power—Low Range									
107.5 (80.2)	8425 (37.48)	4.78 (7.70)	2134	2.0	0.531 (0.323)	13.16 (2.59)	158 (70)	61 (16)	29.6 (100.3)
50% of Pull at Maximum Power—Low Range									
72.8 (54.3)	5605 (24.92)	4.87 (7.84)	2158	1.4	0.581 (0.354)	12.03 (2.37)	151 (66)	61 (16)	29.6 (100.3)
75% of Pull at Reduced Engine Speed—Low Range									
108.0 (80.5)	8430 (37.49)	4.80 (7.73)	1475	2.0	0.441 (0.268)	15.86 (3.12)	160 (71)	57 (14)	29.6 (100.3)
50% of Pull at Reduced Engine Speed—Low Range									
72.3 (53.9)	5615 (24.97)	4.83 (7.77)	1463	1.4	0.467 (0.284)	14.97 (2.95)	154 (68)	57 (14)	29.6 (100.3)

Location of tests: DLG Testing Station for Agricultural Machinery Max - Eyth - Weg 1, D-64823, Gros-Umstadt, Germany

Dates of tests: March to May, 2004

Manufacturer: AGCO GmbH & Co. D-87616 Marktoberdorf, Germany

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F (15°/15°C)** 0.829 **Fuel weight** 6.90 lbs/gal (0.8269 kg/l) **Oil SAE** 10W40 **API service classification** CD **Transmission lubricant** SAE 10W40 **Hydraulic lubricant** SAE 10W40 **Front axle lubricant** 85W/90 gear oil, API GL-5

ENGINE: Make Deutz Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** 00000860836 **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 3.858" x 4.961" (98.0 mm x 126.0 mm) **Compression ratio** 18.0 to 1 **Displacement** 348 cu in (5702 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Fuel cooler** radiator for pump return fuel **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** front wheel assist **Serial No.** 718/22/0018 **Tread width** rear 60.0" (1524 mm) to 120.0" (3048 mm) front 60.0" (1524 mm) to 88.0" (2235 mm) **Wheel base** 106.3" (2700 mm) **Hydraulic control system** direct engine drive **Transmission** Fendt Vario. A combination of mechanical and hydrostatic sections allow an infinite speed adjustment within the ranges noted. The transmission has two mechanical ranges. **Nominal travel speeds mph (km/h)** forward: Low range 0-17 (0-28), high range 0-31 (0-50) reverse: Low range 0-11 (0-17), high range 0-25 (0-40) **Clutch** a foot pedal controls the hydrostatic oil flow **Brakes** wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1931 engine rpm or 1000 rpm at 1903 engine rpm. **Unladen tractor mass** 15960 lb (7240 kg)

DRAWBAR PERFORMANCE
(Unballasted–Front Drive Engaged)
MAXIMUM POWER AT SELECTED TRAVEL SPEEDS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
125.5 (93.6)	17430 (77.53)	2.70 (4.35)	2069	14.9	Low Range 0.581 (0.353)	12.05 (2.37)	154 (68)	55 (13)	29.6 (100.2)
141.3 (105.4)	17190 (76.46)	3.08 (4.96)	1801	8.2	Low Range 0.488 (0.297)	14.31 (2.82)	160 (71)	54 (12)	29.6 (100.3)
143.8 (107.2)	13720 (61.03)	3.93 (6.32)	1801	4.1	Low Range 0.475 (0.289)	14.72 (2.90)	169 (76)	61 (16)	29.5 (99.8)
146.2 (109.0)	11460 (50.97)	4.78 (7.70)	1801	3.0	Low Range 0.470 (0.286)	14.87 (2.93)	163 (73)	64 (18)	29.5 (99.9)
145.2 (108.3)	9360 (41.63)	5.82 (9.36)	1801	2.4	Low Range 0.472 (0.287)	14.82 (2.92)	160 (71)	63 (17)	29.5 (99.9)
144.0 (107.4)	7935 (35.29)	6.81 (10.96)	1801	1.8	Low Range 0.475 (0.289)	14.72 (2.90)	158 (70)	64 (18)	29.5 (99.8)
142.3 (106.1)	6740 (29.98)	7.92 (12.74)	1802	1.5	Low Range 0.483 (0.294)	14.72 (2.85)	162 (72)	64 (18)	29.5 (99.8)
141.4 (105.4)	6035 (26.85)	8.79 (14.14)	1802	1.5	Low Range 0.487 (0.296)	14.37 (2.83)	162 (72)	61 (16)	29.5 (99.8)
136.0 (101.4)	11115 (49.44)	4.59 (7.38)	1801	2.8	High Range 0.506 (0.308)	13.81 (2.72)	165 (74)	57 (14)	29.6 (100.2)
143.0 (106.6)	9405 (41.83)	5.70 (9.18)	1801	2.3	High Range 0.483 (0.294)	14.47 (2.85)	165 (74)	57 (14)	29.6 (100.2)
146.2 (109.0)	8055 (35.84)	6.80 (10.95)	1802	1.9	High Range 0.473 (0.288)	14.47 (2.91)	162 (72)	57 (14)	29.6 (100.3)
147.4 (109.9)	7145 (31.77)	7.74 (12.45)	1803	1.7	High Range 0.472 (0.287)	14.82 (2.92)	162 (72)	59 (15)	29.6 (100.3)
146.7 (109.4)	6140 (27.31)	8.96 (14.42)	1807	1.5	High Range 0.473 (0.288)	14.77 (2.91)	160 (71)	57 (14)	29.6 (100.2)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. The performance results on this summary were taken from OECD tests conducted under the Code II Test Code procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2263**, Nebraska Summary 492, December 15, 2005.

Leonard L. Bashford
Director

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

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 650/65R42; **, 12 (80)
Two 540/65R30; **, 12 (80)
19.7 in (500 mm)
9765 lb (4430 kg)
6360 lb (2885 kg)
16125 lb (7315 kg)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
Maximum Sound level	76.0	76.0
Sound level at 4.6 mph (7.5 km/h) - no load	68.0	68.0
Bystander	--	--

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: Walterscheid lower links

Maximum force exerted through whole range: 13250 lbs (58.9 kN)

i) Opening pressure of relief valve:

NA

	<u>one outlet set</u>	<u>two outlet sets combined</u>
Sustained pressure of the open relief valve:	2900 psi (200 bar)	2900 psi (200 bar)

ii) Pump delivery rate at minimum pressure: 20.9 GPM (79.1 l/min) 29.5 GPM (111.5 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 20.5 GPM (77.5 l/min) 26.3 GPM (99.6 l/min)

Delivery pressure: 2465 psi (170 bar) 2685 psi (185 bar)

Power: 29.4 HP (21.9 kW) 41.2 Hp (30.7 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	29.1	740
B	13.8	350
C	19.3	390
D	15.4	315
E	9.4	240
F	10.0	255
G	35.6	905
H	2.2	55
I	16.1	410
J	25.6	650
K	26.2	665
L	45.1	1145
M	25.0	635
N	39.4	1000
O	9.1	230
P	52.6	1335
Q	38.6	980
R	30.5	775

