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Nebraska Summary 410: Fendt 410 Vario

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SUMMARY OF OECD TEST 2069—NEBRASKA SUMMARY 410

FENDT 410 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 -1084 rpm)					
85.4 (63.7)	2100	5.07 (19.20)	0.415 (0.252)	16.83 (3.31)	
Standard Power Take-off Speed (1000 rpm)					
94.7 (70.6)	1937	5.25 (19.86)	0.387 (0.235)	18.04 (3.55)	
Maximum Power (2 hours)					
96.3 (71.8)	1801	5.17 (19.57)	0.375 (0.228)	18.63 (3.67)	

VARYING POWER AND FUEL CONSUMPTION

85.4 (63.7)	2100	5.07 (19.20)	0.415 (0.252)	16.83 (3.31)	Air temperature
74.4 (55.5)	2148	4.59 (17.37)	0.431 (0.262)	16.20 (3.19)	68°F (20°C)
56.3 (42.0)	2171	3.75 (14.18)	0.464 (0.282)	15.02 (2.96)	Relative humidity
37.8 (28.2)	2195	2.97 (11.23)	0.547 (0.333)	12.75 (2.51)	20%
19.2 (14.3)	2218	2.13 (8.06)	0.775 (0.471)	9.00 (1.77)	Barometer
--	2247	1.38 (5.23)	--	--	29.7" Hg (100.5 kPa)

Maximum Torque - 333 lb.-ft. (452 Nm) at 1253 rpm

Maximum Torque Rise -56.4%

Torque rise at 1700 engine rpm -38%

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 (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—Low Range									
70.26 (52.39)	6160 (27.39)	4.28 (6.89)	2101	2.6	0.508 (0.309)	13.72 (2.70)	181 (83)	36 (2)	29.6 (100.2)
75% of Pull at Maximum Power—Low Range									
54.53 (40.66)	4610 (20.50)	4.44 (7.14)	2155	2.1	0.554 (0.337)	12.59 (2.48)	178 (81)	36 (2)	29.6 (100.2)
50% of Pull at Maximum Power—Low Range									
37.24 (27.77)	3070 (13.67)	4.55 (7.32)	2181	1.3	0.636 (0.387)	10.96 (2.16)	158 (70)	36 (2)	29.6 (100.2)
75% of Pull at Reduced Engine Speed—Low Range									
54.10 (40.34)	4595 (20.44)	4.42 (7.11)	1800	1.8	0.496 (0.302)	14.06 (2.77)	156 (69)	36 (2)	29.6 (100.2)
50% of Pull at Reduced Engine Speed—Low Range									
38.18 (28.47)	3105 (13.81)	4.61 (7.42)	1858	1.5	0.568 (0.346)	12.27 (2.42)	149 (65)	36 (2)	29.6 (100.2)

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

Dates of Test: October 2002 to February 2003.

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)** 0.838 **Fuel weight** 6.98 lbs/gal (0.836 kg/l) **Oil** SAE 10W40 **API service classification** CD **Transmission lubricant** SAE 10W/30 **Hydraulic lubricant** SAE 10W/40 **Front axle lubricant** 85W/90 gear oil, API GL-5

ENGINE: **Make** Deutz Diesel **Type** Four cylinder vertical with turbocharger and air to air intercooler **Serial No.** 00699210 **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** 232 cu in (3802 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.** 411/22/3151 **Tread width** rear 70.5" (1790 mm) front 72.0" (1830 mm) **Wheel base** 95.2" (2417 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 0-15 (0-24), 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 1932 engine rpm or 1000 rpm at 1937 engine rpm. **Unladen tractor mass** 12180 lb (5525 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)
69.33 (51.70)	12730 (56.63)	2.04 (3.29)	1985	15.0	Low Range 0.533 (0.324)	13.10 (2.58)	183 (84)	43 (6)	29.6 (100.2)
78.06 (58.21)	11640 (51.79)	2.51 (4.05)	1801	6.9	Low Range 0.469 (0.285)	14.87 (2.93)	185 (85)	43 (6)	29.6 (100.2)
79.79 (59.50)	9950 (44.25)	3.01 (4.84)	1800	5.0	Low Range 0.454 (0.276)	15.38 (3.03)	185 (85)	41 (5)	29.6 (100.2)
80.65 (60.14)	8535 (37.97)	3.54 (5.70)	1798	4.0	Low Range 0.452 (0.275)	15.43 (3.04)	185 (85)	41 (5)	29.6 (100.2)
78.41 (58.47)	7350 (32.69)	4.00 (6.44)	1792	3.4	Low Range 0.463 (0.281)	15.08 (2.97)	187 (86)	50 (10)	29.6 (100.2)
77.66 (57.91)	6045 (26.90)	4.82 (7.75)	1797	2.9	Low Range 0.467 (0.284)	14.92 (2.94)	187 (86)	50 (10)	29.6 (100.2)
76.04 (56.70)	4875 (21.69)	5.85 (9.41)	1803	2.3	Low Range 0.479 (0.291)	14.57 (2.87)	185 (85)	50 (10)	29.6 (100.2)
74.23 (55.35)	4125 (18.34)	6.75 (10.87)	1796	2.1	Low Range 0.487 (0.296)	14.31 (2.82)	187 (86)	48 (9)	29.6 (100.2)
70.44 (52.53)	8240 (36.65)	3.21 (5.16)	1800	3.8	High Range 0.519 (0.315)	13.45 (2.65)	183 (84)	43 (6)	29.6 (100.2)
76.68 (57.18)	6455 (28.71)	4.46 (7.17)	1796	2.9	High Range 0.475 (0.289)	14.67 (2.89)	185 (85)	43 (6)	29.6 (100.2)
78.87 (58.81)	5110 (22.72)	5.79 (9.32)	1798	2.5	High Range 0.464 (0.283)	15.02 (2.96)	185 (85)	41 (5)	29.6 (100.2)
77.15 (57.53)	4160 (18.50)	6.96 (11.20)	1798	1.9	High Range 0.471 (0.286)	14.84 (2.92)	185 (85)	43 (6)	29.6 (100.2)
76.48 (57.03)	3610 (16.05)	7.95 (12.79)	1798	1.9	High Range 0.475 (0.289)	14.67 (2.89)	183 (84)	43 (6)	29.6 (100.2)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

NOTE: The performance figures on this report are the result of adjusting the Fendt 411 fuel injection system to the 410 specifications.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's 3 point lift claim of 8800 lbs (3993 kg) at 24". The performance results on this summary were taken from OECD tests conducted under the Code II Test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2069**, Nebraska Summary 410, September 2, 2002.

Leonard L. Bashford
Director

M.F. Kocher
V.I. Adamchuk
W.P. Campbell
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 600/65R38;**, 12 (80)
Two 540/65R24;**, 12 (80)
17.7 in (450 mm)
7595 lb (3445 kg)
4750 lb (2155 kg)
12345 lb (5600 kg)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
Sound level at 4.6 mph (7.5 km/h) - no load	70.0	70.5
Maximum Sound level	75.5	75.0
Bystander	--	--

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: Walterscheid lower links

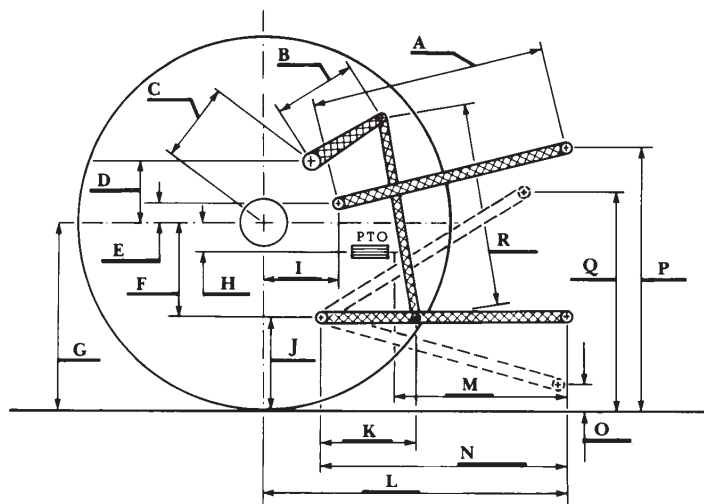
Maximum Force Exerted Through Whole Range: 8500 lbs (37.8 kN)

i) Opening pressure of relief valve: NA
Sustained pressure of the open relief valve: 3030 psi (209 bar)

ii) Pump delivery rate at minimum pressure: 21.7 GPM (82.1 l/min)

iii) Pump delivery rate at maximum
hydraulic power: 19.4 GPM (73.3 l/min)
Delivery pressure: 2685 psi (185 bar)
Power: 30.4 HP (22.6 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	29.5	750
B	13.4	340
C	13.9	354
D	11.9	303
E	9.4	240
F	8.3	210
G	32.3	820
H	1.2	30
I	14.4	366
J	24.0	610
K	25.0	636
L	43.5	1105
M	23.4	595
N	38.2	970
O	7.9	200
P	48.0	1220
Q	37.2	945
R	28.0	710