

SUMMARY OF OECD TEST 3197 - NEBRASKA SUMMARY 1178

FENDT 933 GEN 6 DIESEL

STEPLESS VARIODRIVE TRANSMISSION

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption		D.E.F. Consumption		Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Gal/hr (l/h)	
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1060 rpm)						
287.8 (214.6)	1700	14.53 (55.00)	0.354 (0.215)	19.80 (3.90)	1.45 (5.48)	
Standard Power Take-off Speed (1000 rpm)						
290.5 (216.6)	1604	14.42 (54.60)	0.348 (0.212)	20.15 (3.97)	1.38 (5.24)	
Maximum Power (1 hour)						
291.8 (217.6)	1400	14.17 (53.65)	0.340 (0.207)	20.60 (4.06)	1.39 (5.25)	

VARYING POWER AND FUEL CONSUMPTION

287.8 (214.6)	1700	14.53 (55.00)	0.354 (0.215)	19.80 (3.90)	1.45 (5.48)	Air temperature
249.0 (185.7)	1731	13.00 (49.20)	0.366 (0.223)	19.16 (3.78)	1.23 (4.66)	70°F (21°C)
189.4 (141.2)	1754	10.57 (40.00)	0.391 (0.238)	17.92 (3.53)	0.89 (3.38)	Relative humidity
127.7 (95.2)	1775	8.08 (30.60)	0.444 (0.270)	15.79 (3.11)	0.67 (2.54)	29%
64.2 (47.9)	1785	5.60 (21.20)	0.611 (0.372)	11.47 (2.26)	0.32 (1.23)	Barometer
--	1796	3.33 (12.60)	--	--	0.18 (0.69)	30.1" Hg (101.8 kPa)

Maximum torque - 1106 lb.-ft. (1501 Nm) at 1300 rpm
 Maximum torque rise - 24.5%
 Torque rise at 1400 engine rpm - 23%
 Power increase at 1400 engine rpm - 1.0%

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)	D.E.F. Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing dry med bulb	Barom. inch Hg (kPa)
Power at Rated Engine Speed—Speed setting 9								
250.5 (186.8)	16525 (73.50)	5.69 (9.15)	1693	1.7	0.410 (0.250)	17.14 (3.37)	0.048 (0.029)	163 (73)
75% of Pull at Rated Engine Speed—Speed setting 9								
194.4 (145.0)	12375 (55.05)	5.89 (9.48)	1738	1.4	0.440 (0.268)	15.94 (3.14)	0.049 (0.030)	169 (76)
50% of Pull at Rated Engine Speed—Speed setting 9								
129.3 (96.4)	8210 (36.53)	5.90 (9.50)	1764	1.0	0.513 (0.312)	13.65 (2.69)	0.054 (0.033)	165 (74)
75% of Pull at Reduced Engine Speed—Speed setting 11								
193.9 (144.6)	12375 (55.04)	5.88 (9.46)	1455	1.4	0.416 (0.253)	16.85 (3.32)	0.043 (0.026)	167 (75)
50% of Pull at Reduced Engine Speed—Speed setting 11								
130.5 (97.3)	8220 (36.57)	5.95 (9.58)	1464	1.0	0.457 (0.278)	15.33 (3.02)	0.051 (0.031)	165 (74)

Location of tests: DLG TestService, GmbH, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

Dates of tests: September to December 2019

Manufacturer: AGCO GmbH Johann Georg Fendt Str 4 D 87616 Marktobberdorf Germany

CONSUMABLE Fluids: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8408 Fuel weight 7.01 lbs/gal (0.840 kg/l) Diesel Exhaust Fluid (DEF) 32% aqueous urea solution DEF weight 9.071 lbs/gal (1.087 kg/l) Oil SAE 5W-30 API service classification CK-4 Transmission and hydraulic lubricant AGCO Permantran 821 XL fluid Front axle lubricant AGCO Permatran 821 XL fluid

ENGINE: Make MAN Diesel Type six cylinder vertical with turbocharger, air to air intercooler and D.E.F. (diesel exhaust fluid) exhaust treatment Serial No. 42254301225417 Crankshaft lengthwise Rated engine speed 1700 Bore and stroke 4.528 x 5.709" (115.0 mm x 145.0 mm) Compression ratio 20.0 to 1 Displacement 551 cu in (9037 ml) Starting system 24 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 and prestrainer Fuel cooler radiator for pump return fuel Exhaust DOC (diesel oxidation catalyst)/DPF (diesel particulate filter) System and SCR (selective catalyst reduction) with a vertical muffler Cooling medium temperature control thermostat

CHASSIS: Type front wheel assist with independent drive to each axle Serial No. WAM96123T00F01032 Tread width rear 74.8" (1900 mm) to 88.6" (2250 mm) front 78.7" (2000 mm) to 88.6" (2250 mm) Wheelbase 124.0" (3150 mm) Hydraulic control system direct engine drive Transmission CVT. A combination of mechanical and hydrostatic sections allow an infinite speed adjustment. Nominal travel speeds mph (km/h) forward: 0-37 (0-60), reverse: 0-21 (0-33) Clutch a foot pedal controls the hydrostatic oil flow Brakes wet multiple disc hydraulically operated by foot pedal Steering hydrostatic Power take-off 1000 rpm at 1604 engine rpm Unladen tractor mass 28210 lb (12795 kg)

DRAWBAR PERFORMANCE

UNBALLASTED - FRONT DRIVE ENGAGED - 1400 ENGINE RPM MAXIMUM POWER AT SELECTED TRAVEL SPEEDS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption		D.E.F. Consumption	Temp. °F(°C)		Barom. inch Hg (kPa)
					lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	lb/hp.hr (kg/kW.h)	cool- ing med	Air dry bulb	
Speed setting 6										
221.0 (164.8)	29510 (131.27)	2.81 (4.52)	1441	13.1	0.453 (0.275)	15.43 (3.04)	0.054 (0.033)	194 (90)	63 (17)	28.9 (97.8)
Speed setting 7.5										
250.9 (187.1)	24830 (110.45)	3.79 (6.10)	1399	3.9	0.401 (0.244)	17.41 (3.43)	0.044 (0.027)	183 (84)	61 (16)	28.9 (97.8)
Speed setting 9										
254.8 (190.0)	20515 (91.26)	4.66 (7.50)	1398	2.7	0.393 (0.239)	17.77 (3.50)	0.043 (0.026)	181 (83)	63 (17)	28.9 (97.8)
Speed setting 11										
254.9 (190.1)	17155 (76.32)	5.57 (8.97)	1401	1.9	0.393 (0.239)	17.82 (3.51)	0.048 (0.029)	185 (85)	61 (16)	28.9 (97.8)
Speed setting 13										
256.0 (190.9)	13965 (62.11)	6.87 (11.06)	1402	1.7	0.392 (0.238)	17.83 (3.51)	0.048 (0.029)	196 (91)	63 (17)	28.9 (97.8)
Speed setting 15										
254.0 (189.4)	12470 (55.48)	7.64 (12.29)	1402	1.5	0.394 (0.239)	17.74 (3.49)	0.048 (0.029)	198 (92)	61 (16)	28.9 (97.8)
Speed setting 17										
252.9 (188.6)	10915 (48.55)	8.69 (13.98)	1405	1.3	0.395 (0.240)	17.72 (3.49)	0.049 (0.030)	194 (90)	59 (15)	28.9 (97.8)
Speed setting 19										
250.1 (186.5)	9930 (44.17)	9.44 (15.20)	1406	1.2	0.400 (0.243)	17.51 (3.45)	0.049 (0.030)	190 (88)	59 (15)	28.9 (97.8)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: The performance figures on this report are the result of replacing the electronic engine control module of the Fendt 942 Gen 6 Vario with the Fendt 933 Gen 6 Vario module.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor fell 9.9% short of meeting the manufacturer's 3 point lift capacity claim of 21500 lb (9750 kg) at ball ends. This tractor fell 8.3% short of meeting the manufacturer's hydraulic pump flow claim of 113.5 GPM (430 l/min) with 2 pumps. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **3197**, Nebraska Summary 1178, December 14, 2020.

Roger M. Hoy
Director

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Board of Tractor Test Engineers

TRACTOR SOUND LEVEL WITH CAB

dB(A)

At no load at speed setting 4.7 mph (7.5 km/h)	69.5
Transport at speed setting 37 mph (60 km/h)	73.5
Bystander	--

Horizontal distances of drawbar hitch point behind rear wheel axis - 38.2 in (970 mm), 40.2 in (1020 mm), 44.1 in (1120 mm), 46.5 in (1180 mm)

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 900/65R42;***;12(80)
Two 710/60R34;***;12(80)
25.6 in (630 mm)
15995 lb (7255 kg)
12380 lb (5615 kg)
28375 lb (12870 kg)

HYDRAULIC PERFORMANCE

CATEGORY: 3

Quick Attach: No, Walterscheid quick couplers

Maximum force exerted through whole range: 18635 lbs (82.9 kN) (at 24" (610 mm) behind hitch points)
19380 lbs (86.2 kN) at ball ends

i) Sustained pressure at compensator cutoff: 2870 psi (198 bar)

three outlet sets combined

ii) Pump delivery rate at minimum pressure: 104.1 GPM (394.0 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 97.3 GPM (368.2 l/min)

Delivery pressure: 2325 psi (160 bar)

Power: 131.9 HP (98.3 kW)

single outlet set

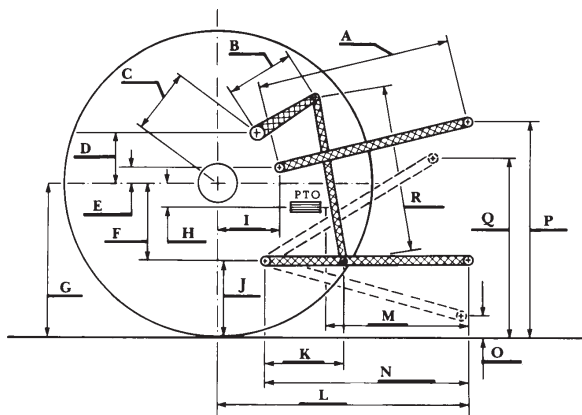
ii) Pump delivery rate at minimum pressure: 46.2 GPM (175.0 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 44.6 GPM (168.8 l/min)

Delivery pressure: 2220 psi (153 bar)

Power: 57.8 HP (43.1 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	33.3	845
B	15.0	380
C	18.6	476
D	15.3	388
E	7.7	195
F	14.3	362
G	40.4	1025
H	2.4	60
I	21.3	540
J	26.1	663
K	24.8	630
L	54.0	1372
M	29.7	755
N	43.0	1093
O	9.1	230
P	53.1	1348
Q	43.9	1116
R	36.6	930

RECOMMENDED CITATION FORMAT:

NTTL.(2020). OECD tractor test 3197 for Fendt 933 Gen 6 Diesel.

Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>