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2021

Nebraska Summary: S1148A Fendt 1042

Nebraska Tractor Test Lab

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SUMMARY OF OECD TEST 3105 - NEBRASKA SUMMARY 1148A

FENDT 1042 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—1053 rpm) | | | | | | |
| 409.5 (305.4) | 1700 | 19.87 (75.20) | 0.339 (0.206) | 20.61 (4.06) | 1.13 (4.27) | |
| Standard Power Take-off Speed (1000 rpm) | | | | | | |
| 408.7 (304.8) | 1614 | 19.58 (74.10) | 0.335 (0.204) | 20.88 (4.11) | 1.19 (4.49) | |
| Maximum Power (1 hour) | | | | | | |
| 410.1 (305.8) | 1500 | 19.37 (73.30) | 0.330 (0.201) | 21.17 (4.17) | 1.35 (5.10) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | | |
|------------------|------|------------------|------------------|-----------------|----------------|----------------------|
| 409.5 (305.4) | 1700 | 19.87 (75.20) | 0.339 (0.206) | 20.61 (4.06) | 1.13 (4.27) | Air temperature |
| 358.1 (267.0) | 1749 | 17.75 (67.20) | 0.347 (0.211) | 20.17 (3.97) | 0.74 (2.79) | 73°F (23°C) |
| 270.8 (201.9) | 1763 | 14.11 (53.40) | 0.364 (0.221) | 19.19 (3.78) | 0.54 (2.03) | Relative humidity |
| 182.0 (135.7) | 1778 | 10.57 (40.00) | 0.406 (0.247) | 17.22 (3.39) | 0.41 (1.55) | 69% |
| 91.9 (68.5) | 1794 | 7.11 (26.90) | 0.540 (0.329) | 12.93 (2.55) | 0.40 (1.50) | Barometer |
| -- | 1807 | 4.12 (15.60) | -- | -- | 0.26 (0.10) | 29.7" Hg (100.6 kPa) |

Maximum torque - 1487 lb.-ft. (2016 Nm) at 1400 rpm
 Maximum torque rise - 17.6%
 Torque rise at 1400 engine rpm - 17%
 Power increase at 1500 engine rpm - 0.1%

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 Hp.hr/gal (kW.h/l) | Temp. °F(°C) | Barom. inch Hg (kPa) |
|---|--------------------------------|------------------------|---------------------------------|-----------|---|--|------------------|-------------------------------|
| Power at Rated Engine Speed—Speed setting 9 | | | | | | | | |
| 348.5 (259.9) | 23120 (102.84) | 5.65 (9.10) | 1696 | 2.1 | 0.399 (0.243) | 17.31 (3.41) | 0.025 (0.015) | 205 (96) |
| 75% of Pull at Rated Engine Speed—Speed setting 9 | | | | | | | | |
| 271.6 (202.5) | 17175 (76.40) | 5.93 (9.54) | 1752 | 1.2 | 0.418 (0.254) | 16.55 (3.26) | 0.023 (0.014) | 203 (95) |
| 50% of Pull at Rated Engine Speed—Speed setting 9 | | | | | | | | |
| 186.7 (139.2) | 11570 (51.47) | 6.05 (9.73) | 1767 | 0.8 | 0.460 (0.280) | 15.02 (2.96) | 0.018 (0.011) | 205 (96) |
| 75% of Pull at Reduced Engine Speed—Speed setting - 11 | | | | | | | | |
| 274.0 (204.3) | 17350 (77.17) | 5.92 (9.53) | 1483 | 1.3 | 0.390 (0.237) | 17.72 (3.49) | 0.030 (0.018) | 205 (96) |
| 50% of Pull at Reduced Engine Speed—Speed setting - 11 | | | | | | | | |
| 185.6 (138.4) | 11570 (51.46) | 6.02 (9.68) | 1498 | 0.9 | 0.422 (0.257) | 16.34 (3.22) | 0.016 (0.010) | 205 (96) |

Location of tests: DLG e.V. Test Centre, Technology and Farm inputs, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

Dates of tests: July to November, 2017

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

CONSUMABLE Fluids: Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.8334 Fuel weight 6.99 lbs/gal (0.837 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 CJ-4 Transmission and hydraulic lubricant MAN M3277 fluid Front axle lubricant MAN M3277 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. 522468405 14658 Crankshaft lengthwise Rated engine speed 1700 Bore and stroke 4.960 x 6.535" (126.0 mm x 166.0 mm) Compression ratio 17.0 to 1 Displacement 758 cu in (12419 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 and variable speed fan

CHASSIS: Type front wheel assist with independent drive to each axle Serial No. 53023119 Tread width rear 74.8" (1900 mm) to 88.6" (2250 mm) front 79.9" (2030 mm) to 88.6" (2250 mm) Wheelbase 129.9" (3300 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 1614 engine rpm Unladen tractor mass 31615 lb (14340 kg)

DRAWBAR PERFORMANCE

UNBALLASTED - FRONT DRIVE ENGAGED - 1500 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 5 | | | | | | | | | | |
| 276.9 (206.5) | 34110 (151.72) | 3.04 (4.90) | 1751 | 9.6 | 0.446 (0.271) | 15.68 (3.09) | 0.041 (0.025) | 205 (96) | 54 (12) | 29.7 (100.5) |
| Speed setting 6 | | | | | | | | | | |
| 316.5 (236.0) | 33745 (150.11) | 3.52 (5.66) | 1707 | 9.2 | 0.442 (0.268) | 15.81 (3.12) | 0.026 (0.016) | 203 (95) | 84 (29) | 29.7 (100.6) |
| Speed setting 7.5 | | | | | | | | | | |
| 339.1 (252.9) | 31365 (139.52) | 4.06 (6.53) | 1500 | 4.7 | 0.404 (0.245) | 17.31 (3.41) | 0.028 (0.017) | 203 (95) | 81 (27) | 29.7 (100.6) |
| Speed setting 9 | | | | | | | | | | |
| 349.7 (260.8) | 26550 (118.11) | 4.94 (7.95) | 1501 | 2.5 | 0.390 (0.237) | 17.89 (3.52) | 0.025 (0.015) | 201 (94) | 81 (27) | 29.7 (100.6) |
| Speed setting 11 | | | | | | | | | | |
| 349.1 (260.3) | 21630 (96.22) | 6.05 (9.74) | 1500 | 1.9 | 0.389 (0.237) | 17.96 (3.54) | 0.025 (0.015) | 205 (96) | 75 (24) | 29.7 (100.6) |
| Speed setting 13 | | | | | | | | | | |
| 350.1 (261.1) | 18260 (81.23) | 7.19 (11.57) | 1501 | 1.7 | 0.388 (0.236) | 18.02 (3.55) | 0.025 (0.015) | 205 (96) | 77 (25) | 29.7 (100.6) |
| Speed setting 15 | | | | | | | | | | |
| 348.9 (260.2) | 15880 (70.63) | 8.24 (13.26) | 1501 | 1.5 | 0.390 (0.237) | 17.89 (3.53) | 0.025 (0.015) | 203 (95) | 79 (26) | 29.7 (100.6) |
| Speed setting 17 | | | | | | | | | | |
| 348.7 (260.0) | 13880 (61.74) | 9.42 (15.16) | 1501 | 1.3 | 0.390 (0.237) | 17.89 (3.53) | 0.025 (0.015) | 203 (95) | 79 (26) | 29.7 (100.6) |
| Speed setting 19 | | | | | | | | | | |
| 346.4 (258.3) | 12515 (55.68) | 10.38 (16.70) | 1503 | 1.0 | 0.393 (0.239) | 17.77 (3.50) | 0.025 (0.015) | 203 (95) | 79 (26) | 29.7 (100.6) |

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 1050 S4 Vario with the Fendt 1042 S4 Vario module.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. The manufacturer's hydraulic pump flow claim of 113.5 GPM (430 l/min) with 2 pumps was not verified. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

REPORT REISSUED. Supplemental sales permit for Fendt 1042 VarioDrive Diesel, January 2021.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **3105**, Nebraska Summary 1148A, January 14, 2021.

Roger M. Hoy
Director

M.F. Kocher
P.J. Jasa
J.D. Luck
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) | 69.4 |
| Transport at speed setting 37 mph (60 km/h) | 69.7 |
| Bystander | -- |

Horizontal distances of drawbar hitch point behind rear wheel axis - 41.5 in (1053 mm), 47.4 in (1203 mm), 53.3 in (1353 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 900/65R46;***;12(80)
Two 710/60R38;***;12(80)
25.6 in (650 mm)
17915 lb (8125 kg)
13700 lb (6215 kg)
31615 lb (14340 kg)

HYDRAULIC PERFORMANCE

CATEGORY: 3

Quick Attach: No, Walterscheid quick couplers

Maximum force exerted through whole range: 17085 lbs (76.0 kN) (at 24" (610 mm) behind hitch points)
18455 lbs (82.1 kN) at ball ends

i) Sustained pressure at compensator cutoff: 2850 psi (197 bar)
three outlet sets combined

ii) Pump delivery rate at minimum pressure: 61.3 GPM (232.0 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 58.3 GPM (220.7 l/min)

Delivery pressure: 2540 psi (175 bar)

Power: 86.3 HP (64.3 kW)

single outlet set

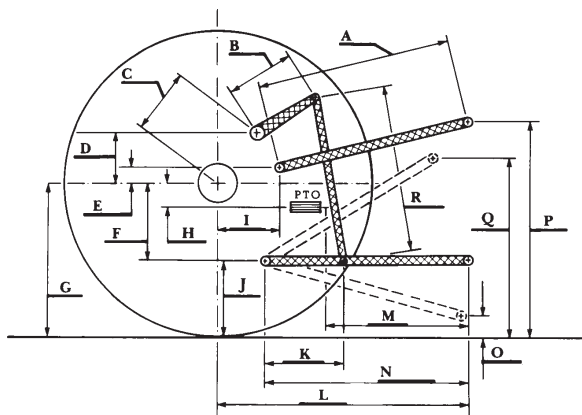
ii) Pump delivery rate at minimum pressure: 44.3 GPM (167.6 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 43.0 GPM (162.9 l/min)

Delivery pressure: 2320 psi (160 bar)

Power: 58.2 HP (43.5 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

| | inch | mm |
|---|------|------|
| A | 35.0 | 890 |
| B | 15.5 | 393 |
| C | 18.6 | 473 |
| D | 15.7 | 398 |
| E | 3.5 | 90 |
| F | 16.9 | 430 |
| G | 44.3 | 1125 |
| H | 5.4 | 136 |
| I | 24.0 | 610 |
| J | 27.4 | 695 |
| K | 25.3 | 642 |
| L | 58.7 | 1490 |
| M | 30.8 | 782 |
| N | 43.3 | 1100 |
| O | 9.1 | 230 |
| P | 54.3 | 1380 |
| Q | 44.4 | 1127 |
| R | 41.4 | 1045 |

RECOMMENDED CITATION FORMAT:

NTTL.(2021). OECD tractor test 3105 for Fendt 1042 VarioDrive Diesel.

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