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January 1996

Test 1618: Valmet 8150 Diesel

Nebraska Tractor Test Lab

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SUMMARY OF OECD TEST 1618—NEBRASKA SUMMARY 285

VALMET 8150 DIESEL

36 SPEED

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-1058 rpm)					
109.3 (81.5)	2200	6.90 (26.11)	0.446 (0.271)	15.84 (3.12)	
Standard Power Take-off Speed (1000 rpm)					
111.8 (83.4)	2080	6.68 (25.30)	0.422 (0.257)	16.73 (3.29)	
Maximum Power (2 hours)					
113.3 (84.5)	1950	6.48 (24.54)	0.404 (0.246)	17.48 (3.44)	

VARYING POWER AND FUEL CONSUMPTION

109.3 (81.5)	2200	6.90 (26.11)	0.446 (0.271)	15.84 (3.12)	Air temperature
96.0 (71.6)	2270	6.43 (24.34)	0.473 (0.288)	14.92 (2.94)	66°F (19°C)
73.2 (54.6)	2311	5.53 (20.94)	0.533 (0.324)	13.24 (2.61)	Relative humidity
49.5 (36.9)	2338	4.52 (17.11)	0.644 (0.392)	10.96 (2.16)	35%
25.1 (18.7)	2368	3.52 (13.34)	0.991 (0.603)	7.11 (1.40)	Barometer
--	2397	2.49 (9.44)	--	--	29.1" Hg (98.4 kPa)

Maximum Torque - 363 lb.-ft. (492 Nm) at 1199 rpm
Maximum Torque Rise - 39.0%
Torque rise at 1800 engine rpm - 23%

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 20th (3MPS2) Gear									
91.9 (68.5)	7965 (35.43)	4.33 (6.96)	2202	4.7	0.534 (0.325)	13.20 (2.60)	151 (66)	39 (4)	29.5 (100.0)
75% of Pull at Maximum Power 20th (3MPS2) Gear									
72.3 (53.9)	5950 (26.47)	4.56 (7.33)	2282	3.0	0.600 (0.365)	11.78 (2.32)	178 (81)	39 (4)	29.5 (100.0)
50% of Pull at Maximum Power 20th (3MPS2) Gear									
49.6 (37.0)	3970 (17.66)	4.69 (7.55)	2320	1.9	0.713 (0.434)	9.90 (1.95)	169 (76)	39 (4)	29.5 (100.0)
75% of Pull at Reduced Engine Speed 21st (4MPS1) Gear									
72.3 (53.9)	5940 (26.42)	4.56 (7.34)	1988	2.9	0.524 (0.319)	13.45 (2.65)	149 (65)	39 (4)	29.5 (100.0)
50% of Pull at Reduced Engine Speed 21st (4MPS1) Gear									
49.7 (37.1)	3960 (17.62)	4.71 (7.58)	2031	1.8	0.615 (0.374)	11.47 (2.26)	149 (65)	37 (3)	29.5 (100.0)

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

Dates of Test: February- March, 1996

Manufacturer: Sisu Tractors Inc., FIN-44200
Suolahti, Finland

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.848
Fuel weight 7.06 lbs/gal (0.846 kg/l) **Oil SAE**
10W/30 **API service classification** CD
Transmission and hydraulic lubricant Esso
Unifarm SAE 15W/40 **API GL-5** **Front axle lubricant** Caltrex Gear Plus SAE 80W90 **API GL-5**

ENGINE: Make Valmet Diesel **Type** six cylinder
vertical with turbocharger **Serial No.** E 1 12 75
Crankshaft lengthwise **Rated engine speed**
2200 **Bore and stroke** 4.251" x 4.72"
(108.0 mm x 120.0 mm) **Compression ratio** 16.5
to 1 **Displacement** 402 cu in (6596 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner**
two paper elements **Oil filter** one full flow
cartridge **Oil cooler** radiator for hydraulic and
transmission oil **Fuel filter** two paper cartridges
Muffler underhood **Exhaust** vertical **Cooling medium temperature control** thermostat

CHASSIS: **Type** front wheel assist **Serial No.**
E 49 310 **Tread width** rear 63.4" (1610 mm) to
83.3" (2115 mm) front 59.8" (1520 mm) to 77.8"
(1975 mm) **Wheel base** 100.8" (2560 mm)
Hydraulic control system direct engine drive
Transmission selective gear fixed ratio with partial
(3) range operator controlled powershift **Nominal travel speeds mph (km/h)** first 0.37 (0.59) second
0.45 (0.73) third 0.52 (0.84) fourth 0.57 (0.91)
fifth 0.65 (1.04) sixth 0.74 (1.19) seventh 0.81
(1.30) eighth 0.91 (1.46) ninth 1.04 (1.68) tenth
1.13 (1.82) eleventh 1.29 (2.07) twelfth 1.60 (2.58)
thirteenth 1.83 (2.95) fourteenth 2.26 (3.64)
fifteenth 2.62 (4.21) sixteenth 2.82 (4.54)
seventeenth 3.23 (5.19) eighteenth 3.67 (5.91)
nineteenth 4.02 (6.47) twentieth 4.53 (7.29)
twenty-first 5.19 (8.36) twenty-second 5.65 (9.09)
twenty-third 5.72 (9.21) twenty-fourth 6.41 (10.31)
twenty-fifth 7.06 (11.36) twenty-sixth 7.98 (12.85)
twenty-seventh 8.16 (13.13) twenty-eighth 8.79
(14.15) twenty-ninth 10.06 (16.19) thirtieth 11.46
(18.45) thirty-first 12.53 (20.17) thirty-second
14.14 (22.76) thirty-third 16.21 (26.09) thirty-
fourth 17.62 (28.35) thirty-fifth 20.00 (32.17)
thirty-sixth 24.91 (40.08)

DRAWBAR PERFORMANCE
UNBALLASTED FRONT DRIVE ENGAGED
MAXIMUM POWER IN SELECTED GEARS

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)
86.8 (64.7)	12240 (54.45)	2.66 (4.28)	2108	15.0	0.559 (0.340)	12.64 (2.49)	127 (53)	36 (2)	29.5 (100.0)
92.1 (68.7)	11685 (51.97)	2.96 (4.76)	1948	9.4	0.496 (0.302)	14.21 (2.80)	136 (58)	36 (2)	29.5 (100.0)
89.8 (67.0)	10195 (45.36)	3.30 (5.32)	1951	7.4	0.506 (0.308)	13.96 (2.75)	187 (86)	37 (3)	29.5 (100.0)
93.3 (69.6)	9425 (41.92)	3.71 (5.98)	1951	6.0	0.493 (0.300)	14.31 (2.82)	181 (83)	32 (0)	29.5 (100.0)
95.3 (71.1)	8145 (36.23)	4.39 (7.06)	1950	4.9	0.482 (0.293)	14.63 (2.88)	174 (79)	32 (0)	29.5 (100.0)
95.6 (71.3)	7475 (33.25)	4.80 (7.72)	1952	4.2	0.481 (0.292)	14.68 (2.89)	176 (80)	34 (1)	29.5 (100.0)
97.8 (72.9)	7520 (33.44)	4.88 (7.85)	1951	3.7	0.469 (0.285)	15.08 (2.97)	178 (81)	36 (2)	29.5 (100.0)
95.9 (71.5)	6525 (29.02)	5.51 (8.87)	1952	3.4	0.479 (0.291)	14.74 (2.90)	174 (79)	32 (0)	29.5 (100.0)
96.3 (71.8)	5930 (26.39)	6.09 (9.80)	1949	3.0	0.479 (0.291)	14.74 (2.90)	178 (81)	32 (0)	29.5 (100.0)
93.7 (69.9)	5085 (22.63)	6.91 (11.12)	1949	2.6	0.490 (0.298)	14.42 (2.84)	180 (82)	34 (1)	29.5 (100.0)
97.2 (72.5)	5185 (23.07)	7.03 (11.31)	1950	2.4	0.472 (0.287)	14.97 (2.95)	176 (80)	30 (-1)	29.5 (100.0)
94.6 (70.5)	4635 (20.61)	7.65 (12.32)	1948	2.0	0.488 (0.297)	14.47 (2.85)	180 (82)	30 (-1)	29.5 (100.0)

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
Maximum Sound Level	82.0	82.5
Bystander in 36th(4HPS3) Gear		84.5

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 20.8R38; **, 12 (80)
Two 16.9R28; **, 12 (80)
20.1 in (510 mm)
6250 lb (2835 kg)
4720 lb (2140 kg)
10970 lb (4975 kg)

reverse 0.38 (0.61), 0.47 (0.75), 0.54 (0.87), 0.58 (0.93), 0.66 (1.07), 0.76 (1.22), 0.83 (1.33), 0.93 (1.50), 1.07 (1.72), 1.16 (1.87), 1.32 (2.12), 1.64 (2.64), 1.88 (3.03), 2.32 (3.73), 2.68 (4.31), 2.89 (4.65), 3.31 (5.32), 3.77 (6.06), 4.12 (6.63), 4.64 (7.47), 5.33 (8.57), 5.79 (9.31), 5.87 (9.44), 6.57 (10.57), 7.23 (11.64), 8.18 (13.16), 8.36 (13.46), 9.01 (14.50), 10.32 (16.60), 11.75 (18.91), 12.84 (20.67), 14.50 (23.32), 16.61 (26.73), 18.05 (29.05), 20.49 (32.97), 25.52 (41.07) **Clutch** single dry disc hydraulically operated by foot pedal **Brakes** multiple wet disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take off** 540 rpm at 1874 engine rpm or 1000 rpm at 2080 engine rpm. **Unladen tractor mass** 10800 lb (4900 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturers 3 point lift claim of 15000 lb (7.0 ton) at lower links. The performance results on this summary were taken from OECD tests conducted under the Code 2 Test Code procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **1618**, Nebraska Summary 285, June 17, 1999.

Leonard L. Bashford
Director

M.L. Kocher
R.D. Grisso
G.J. Hoffman
Board of Tractor Test Engineers

THREE POINT HITCH PERFORMANCE (OECD Static Test)

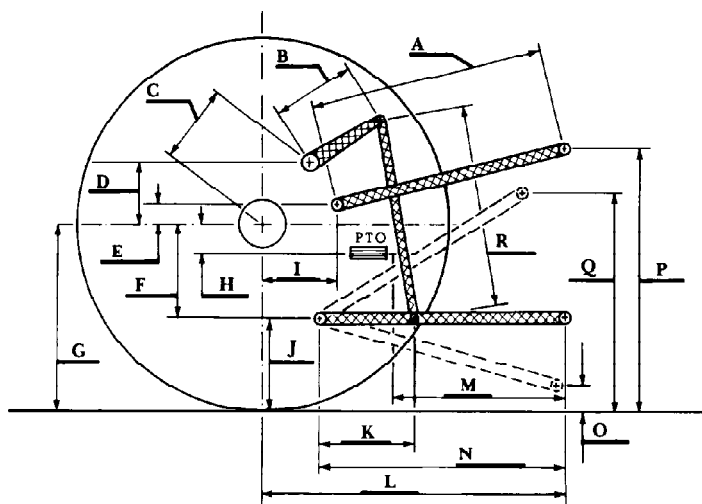
CATEGORY: II

Quick Attach: none

Maximum Force Exerted Through Whole Range: 8095 lbs (36.0 kN) at the frame
12860 lbs (57.2 kN) at lower link ends

- i) Opening pressure of relief valve: NA
Sustained pressure of the open relief valve: 2625 psi (181 bar)
- ii) Pump delivery rate at minimum pressure: 20.4 GPM (77.4 l/min)
- iii) Pump delivery rate at maximum hydraulic power: 18.9 GPM (71.7 l/min)
Delivery pressure: 2175 psi (150 bar)
Power: 24.0 HP (17.9 kW)

HITCH DIMENSIONS AS TESTED-NO LOAD



	inch	mm
A	29.1	740
B	13.8	350
C	12.0	305
D	11.2	285
E	9.4	240
F	10.2	258
G	33.7	855
H	1.4	35
I	16.7	425
J	23.5	597
K	15.4	390
L	46.3	1176
M	29.4	748
N	38.6	980
O	9.1	230
P	50.5	1282
Q	40.4	1025
R	25.6	650