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1996

Nebraska Summary: S285 Valmet 8150

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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)*	Fuel Consumption Hp.hr/gal *(kW.h/l)*	Temp.°F cool-ing	Temp.°F *(°C)* 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)*	Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
				17th (2MPS2) Gear					
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)*
				18th (3MPS1) Gear					
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)*
				19th (2MPS3) Gear					
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)*
				20th (3MPS2) Gear					
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)*
				21st (4MPS1) Gear					
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)*
				22nd (3MPS3) Gear					
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)*
				23rd (1HPS1) Gear					
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)*
				24th (4MPS2) Gear					
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)*
				25th (1HPS2) Gear					
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)*
				26th (4MPS3) Gear					
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)*
				27th (2HPS1) Gear					
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)*
				28th (1HPS3) Gear					
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		**Tested Without Ballast**
Rear Tires No., size, ply & psi *(kPa)*		Two 20.8R38;**; 12 *(80)*
Front Tires No., size, ply & psi *(kPa)*		Two 16.9R28;**; 12 *(80)*
Height of Drawbar		20.1 in *(510 mm)*
Static Weight with operator	Rear	6250 lb *(2835 kg)*
	Front	4720 lb *(2140 kg)*
	Total	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.

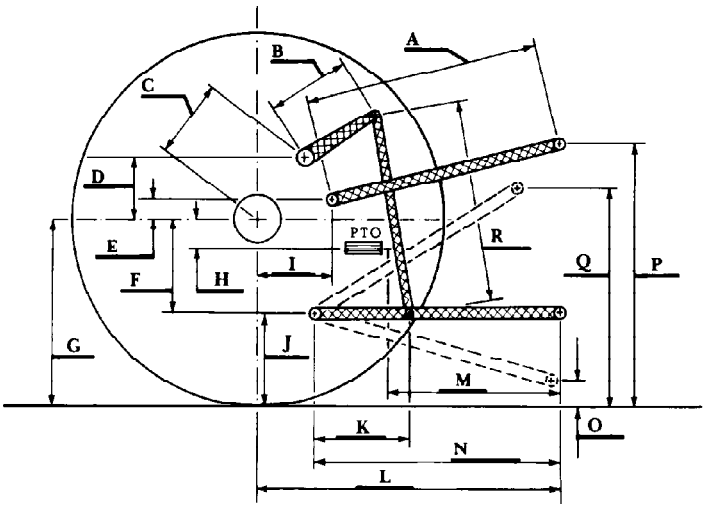
Leonard L. Bashford
Director

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*

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