3-25-1980

Test 1335: Versatile 895 Diesel 12-Speed

Nebraska Tractor Test Lab
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NEBRASKA TRACTOR TEST 1335 — VERSATILE 895 DIESEL 12 SPEED

DRAWBAR PERFORMANCE AT 2100 RPM

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank-shaft speed rpm	Slip %	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 7th (2-3) Gear											
251.51 (187.55)	14609 (64.98)	6.46 (10.39)	2099	3.35	16.603 (62.849)	0.466 (0.284)	15.15 (2.984)	176 (79.7)	43 (6.1)	50 (9.7)	28.890 (97.557)
75% of Pull at Maximum Power—Ten Hours 7th (2-3) Gear											
*212.55 (158.49)	11404 (50.73)	6.99 (11.25)	2257	2.58	15.488 (58.628)	0.515 (0.313)	13.72 (2.702)	171 (77.1)	42 (5.3)	44 (6.4)	28.663 (96.791)
50% of Pull at Maximum Power—Two Hours 7th (2-3) Gear											
147.20 (109.77)	7618 (33.89)	7.25 (11.66)	2323	1.83	12.727 (48.175)	0.611 (0.371)	11.57 (2.279)	174 (78.6)	43 (5.8)	44 (6.4)	28.840 (97.388)
50% of Pull at Reduced Engine Speed—Two Hours 10th (3-2) Gear											
147.00 (109.62)	7619 (33.89)	7.24 (11.64)	1372	1.79	9.434 (35.713)	0.453 (0.276)	15.58 (3.070)	176 (79.7)	36 (2.2)	37 (2.8)	28.610 (96.612)

MAXIMUM POWER IN SELECTED GEARS

218.72 (163.10)	29402 (130.79)	2.79 (4.49)	2151	14.76	2nd (1-2) Gear	174 (78.6)	40 (4.4)	41 (5.0)	28.990 (97.895)
241.13 (179.81)	27572 (122.65)	3.28 (5.28)	2099	10.80	3rd (1-3) Gear	177 (80.6)	44 (6.7)	55 (12.8)	28.820 (97.321)
255.98 (190.89)	23999 (106.75)	4.00 (6.44)	2100	6.38	4th (1-4) Gear	177 (80.3)	44 (6.7)	55 (12.8)	28.830 (97.355)
259.34 (193.39)	20478 (91.09)	4.75 (7.64)	2101	4.91	5th (2-1) Gear	177 (80.3)	44 (6.7)	55 (12.8)	28.830 (97.355)
261.42 (194.94)	17603 (78.30)	5.57 (8.96)	2100	3.96	6th (2-2) Gear	178 (80.8)	44 (6.7)	54 (12.2)	28.840 (97.388)
261.63 (195.09)	15200 (67.61)	6.45 (10.39)	2099	3.31	7th (2-3) Gear	177 (80.3)	44 (6.7)	53 (11.7)	28.850 (97.422)
259.62 (193.60)	12921 (57.47)	7.53 (12.13)	2101	2.82	8th (2-4) Gear	177 (80.6)	44 (6.7)	55 (12.8)	28.810 (97.287)
256.22 (191.06)	10113 (44.98)	9.50 (15.29)	2099	2.08	9th (3-1) Gear	176 (80.0)	44 (6.7)	55 (12.8)	28.800 (97.253)

LUGGING ABILITY IN 7th (2-3) GEAR

Crankshaft Speed rpm	2099	1892	1678	1470	1257	1053
Pull—lbs (kN)	15200 (67.61)	17016 (75.69)	18920 (84.16)	20412 (90.80)	20270 (90.16)	18013 (80.13)
Increase in Pull %	0	12	24	34	33	19
Power—Hp (kW)	261.63 (195.09)	262.66 (195.86)	257.41 (191.95)	241.93 (180.41)	205.66 (153.36)	154.04 (114.87)
Speed—Mph (km/h)	6.45 (10.39)	5.79 (9.32)	5.10 (8.21)	4.44 (7.15)	3.80 (6.12)	3.21 (5.16)
Slip %	3.31	3.88	4.36	4.99	4.83	4.20

TRACTOR SOUND LEVEL WITH CAB	2100 RPM dB(A)	1900 RPM dB(A)	1750 RPM dB(A)
Maximum Available Power—Two Hours	83.5	83.5	82.0
75% of Pull at Maximum Power—Ten Hours	84.0	---	---
50% of Pull at Maximum Power—Two Hours	83.0	---	---
50% of Pull at Reduced Engine Speed—Two Hours	81.5	---	---
Bystander in 12th (3-4) gear	91.0	---	---

Department of Agricultural Engineering

Dates of Test: March 25 to April 3, 1980

Manufacturer: VERSATILE MANUFACTURING CO., 1260 Clarence Avenue, Winnipeg, Manitoba R3T 1T3

FUEL, OIL AND TIME: Fuel No. 2 Diesel **Cetane No.** 47.9 (rating taken from oil company's inspection data) **Specific gravity converted to 60°/60° *(15°/15°)*** 0.8482 **Fuel weight** 7.062 lbs/gal *(0.846 kg/l)* **Oil SAE** 30 **API service classification** SB/SE-CA/CD **To motor** 7.024 gal *(26.586 l)* **Drained from motor** 6.020 gal *(22.786 l)* **Transmission and hydraulic lubricant** Esso Hydraul 56 or equivalent **Final drive lubricant** SAE 90 **Total time engine was operated** 54.0 hours.

ENGINE: Make Cummins Diesel **Type** six cylinder vertical with turbocharger and intercooler **Serial No.** 10894686 **Crankshaft** lengthwise **Rated rpm** 1750 to 2100 **Bore and stroke** 5.5" x 6.0" *(139.7 mm x 152.4 mm)* **Compression ratio** 14.1 to 1 **Displacement** 855 cu in *(14013 ml)* **Starting System** 12 volt **Lubrication** pressure **Air cleaner** two paper elements with aspirator **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** two cartridges **Muffler** vertical **Cooling medium temperature control** one thermostat.

CHASSIS: Type Four-wheel drive with duals **Serial No.** 895 80 090029 **Tread width** rear 72" *(1829 mm)* to 129" *(3276 mm)* front 72" *(1829 mm)* to 129" *(3276 mm)* **Wheel base** 130" *(3302 mm)* **Center of gravity** (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 84.0" *(2134 mm)* Vertical distance above roadway 42.0" *(1067 mm)* Horizontal distance from center of rear wheel tread 0" *(0 mm)* to the right/left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Advertised speeds mph *(km/h)*** first 2.6 *(4.2)* second 3.0 *(4.9)* third 3.5 *(5.6)* fourth 4.1 *(6.6)* fifth 4.7 *(7.6)* sixth 5.5 *(8.9)* seventh 6.3 *(10.2)* eighth 7.3 *(11.8)* ninth 9.2 *(14.8)* tenth 10.7 *(17.2)* eleventh 12.3 *(19.8)* twelfth 14.3 *(23.0)* reverse 3.4 *(5.4)*, 3.9 *(6.3)*, 4.5 *(7.3)*, 5.2 *(8.4)* **Clutch** two dry discs operated by foot pedal **Brakes** dual caliper disc hydraulically operated by foot pedal or mechanically by hand lever **Steering** hydrostatic and articulated **Turning radius** (on concrete surface without brake) right 239" *(6.07 m)* left 239" *(6.07 m)* **Turning space diameter** (on concrete surface without brake) right 490" *(12.45 m)* left 490" *(12.45 m)* **Power take-off** none.

DRAWBAR PERFORMANCE AT 1900 RPM

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp. °F *(°C)* Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Available Power—Two Hours 7th (2-3) Gear											
255.07 *(190.21)*	16462 *(73.23)*	5.81 *(9.35)*	1900	3.72	15.895 *(60.169)*	0.440 *(0.268)*	16.05 *(3.161)*	176 *(80.0)*	42 *(5.3)*	44 *(6.7)*	28.905 *(97.608)*
MAXIMUM POWER IN SELECTED GEARS											
228.00 *(170.02)*	29413 *(130.83)*	2.91 *(4.68)*	1953	14.95	3rd (1-3) Gear			175 *(79.4)*	40 *(4.4)*	41 *(5.0)*	28.990 *(97.895)*
248.47 *(185.29)*	26453 *(117.67)*	3.52 *(5.67)*	1899	8.90	4th (1-4) Gear			178 *(81.1)*	44 *(6.7)*	55 *(12.8)*	28.820 *(97.321)*
259.20 *(193.28)*	22859 *(101.68)*	4.25 *(6.84)*	1900	5.84	5th (2-1) Gear			178 *(81.1)*	44 *(6.7)*	55 *(12.8)*	28.830 *(97.355)*
261.89 *(195.29)*	19610 *(87.23)*	5.01 *(8.06)*	1901	4.44	6th (2-2) Gear			178 *(81.1)*	44 *(6.7)*	54 *(12.2)*	28.840 *(97.388)*
263.21 *(196.28)*	16998 *(75.61)*	5.81 *(9.35)*	1899	3.88	7th (2-3) Gear			177 *(80.3)*	44 *(6.7)*	54 *(12.2)*	28.840 *(97.388)*
263.33 *(196.37)*	14548 *(64.71)*	6.79 *(10.92)*	1900	3.15	8th (2-4) Gear			177 *(80.6)*	44 *(6.7)*	55 *(12.8)*	28.810 *(97.287)*
261.69 *(195.14)*	11442 *(50.89)*	8.58 *(13.80)*	1900	2.41	9th (3-1) Gear			177 *(80.3)*	44 *(6.7)*	55 *(12.8)*	28.800 *(97.253)*

DRAWBAR PERFORMANCE AT 1750 RPM

Maximum Available Power—Two Hours 7th (2-3) Gear											
253.68 *(189.17)*	17833 *(79.32)*	5.33 *(8.59)*	1750	4.20	15.311 *(57.958)*	0.426 *(0.259)*	16.57 *(3.264)*	173 *(78.3)*	42 *(5.6)*	45 *(7.2)*	28.890 *(97.557)*
MAXIMUM POWER IN SELECTED GEARS											
258.77 *(192.96)*	18193 *(80.92)*	5.33 *(8.58)*	1750	4.12	7th (2-3) Gear			173 *(78.3)*	42 *(5.6)*	45 *(7.2)*	28.930 *(97.692)*

TIRES, BALLAST AND WEIGHT		**With Ballast**	**Without Ballast**
Rear Tires	—No., size, ply & psi *(kPa)*	Four 24.5-32; 10; inner 16 *(110)*; outer 14 *(95)*	Four 24.5-32; 10; inner 16 *(110)*; outer 14 *(95)*
Ballast	—Liquid (each inner)	1755 lb *(796 kg)*	None
	—Cast Iron (each)	None	None
Front Tires	—No., size, ply & psi *(kPa)*	Four 24.5-32; 10; inner 16 *(110)*; outer 14 *(95)*	Four 24.5-32; 10; inner 16 *(110)*; outer 14 *(95)*
Ballast	—Liquid (each inner)	2185 lb *(991 kg)*	None
	—Cast Iron (each)	None	None
Height of Drawbar		19 in *(485 mm)*	19 in *(485 mm)*
Static Weight with Operator—Rear		13070 lb *(5929 kg)*	9560 lb *(4336 kg)*
Front		19430 lb *(8813 kg)*	15060 lb *(6831 kg)*
Total		32500 lb *(14742 kg)*	24620 lb *(11167 kg)*

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure. Temperature at injection pump was 120°F *(48.9°C)*. Eight gears were chosen between 15% slip and 10 mph *(16.1 km/h)*.

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1335.**

L. I. LEVITICUS
Engineer-in-Charge

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Versatile 895 Diesel

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