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## Test 1326: Ford 1900 Diesel 12-Speed

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# NEBRASKA TRACTOR TEST 1326 — FORD 1900 DIESEL 12 speed

## POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption			Temperature °F (°C)			Barometer inch Hg (kPa)
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb	
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>								
<b>Rated Engine Speed—Two Hours (PTO Speed—616 rpm)</b>								
26.88 (20.04)	2800	2.162 (8.184)	0.565 (0.343)	12.43 (2.449)	218 (103.4)	59 (15.0)	75 (24.0)	29.100 (98.266)
<b>Standard Power Take-off Speed (540 rpm)—One Hour</b>								
25.68 (19.15)	2452	2.042 (7.728)	0.558 (0.339)	12.58 (2.478)	223 (106.2)	58 (14.6)	75 (23.9)	29.090 (98.233)
<b>VARYING POWER AND FUEL CONSUMPTION—Two Hours</b>								
23.65 (17.63)	2898	1.868 (7.070)	0.554 (0.337)	12.66 (2.494)	206 (96.4)	58 (14.7)	74 (23.6)	.....
0.00 (0.00)	2960	0.684 (2.589)	.....	.....	171 (77.2)	59 (15.0)	75 (23.9)	.....
11.96 (8.92)	2932	1.197 (4.530)	0.702 (0.427)	10.00 (1.969)	176 (80.0)	59 (15.0)	76 (24.2)	.....
27.21 (20.29)	2798	2.184 (8.268)	0.563 (0.343)	12.46 (2.454)	214 (101.4)	59 (15.0)	75 (23.9)	.....
6.00 (4.48)	2944	0.919 (3.479)	1.074 (0.653)	6.53 (1.287)	174 (78.9)	60 (15.3)	76 (24.4)	.....
17.88 (13.33)	2921	1.504 (5.695)	0.591 (0.359)	11.88 (2.341)	188 (86.4)	60 (15.6)	77 (25.0)	.....
<b>Av</b> <b>14.45</b> <b>(10.78)</b>	<b>2909</b>	<b>1.393</b> <b>(5.272)</b>	<b>0.676</b> <b>(0.411)</b>	<b>10.38</b> <b>(2.044)</b>	<b>188</b> <b>(86.7)</b>	<b>59</b> <b>(15.1)</b>	<b>76</b> <b>(24.2)</b>	<b>29.083</b> <b>(98.210)</b>

## DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
<b>Maximum Available Power—Two Hours 8th (3-2) Gear</b>											
22.06 (16.45)	1703 (7.57)	4.86 (7.82)	2800	7.26	2.119 (8.022)	0.674 (0.410)	10.41 (2.051)	207 (96.9)	61 (16.1)	75 (23.6)	28.850 (97.422)
<b>75% of Pull at Maximum Power—Ten Hours 8th (3-2) Gear</b>											
18.27 (13.62)	1336 (5.94)	5.13 (8.25)	2890	5.19	1.678 (6.350)	0.645 (0.392)	10.89 (2.145)	190 (87.7)	62 (16.7)	78 (25.3)	28.901 (97.594)
<b>50% of Pull at Maximum Power—Two Hours 8th (3-2) Gear</b>											
12.29 (9.16)	880 (3.91)	5.24 (8.43)	2910	3.79	1.318 (4.989)	0.753 (0.458)	9.32 (1.837)	177 (80.6)	63 (16.9)	79 (25.8)	28.825 (97.338)
<b>50% of Pull at Reduced Engine Speed—Two Hours 10th (4-1) Gear</b>											
12.20 (9.10)	873 (3.88)	5.24 (8.43)	1969	3.63	1.069 (4.045)	0.615 (0.374)	11.41 (2.249)	178 (81.1)	62 (16.7)	78 (25.6)	28.840 (97.388)

## MAXIMUM POWER IN SELECTED GEARS

20.33 (15.16)	2964 (13.18)	2.57 (4.14)	2866	14.87	6th (2-3) Gear			184 (84.4)	52 (11.1)	64 (17.8)	28.920 (97.659)
22.35 (16.67)	2432 (10.82)	3.45 (5.55)	2801	10.88	7th (3-1) Gear			200 (93.3)	60 (15.6)	70 (21.1)	28.840 (97.388)
23.00 (17.15)	1773 (7.89)	4.86 (7.83)	2800	7.21	8th (3-2) Gear			196 (91.1)	58 (14.4)	66 (18.9)	28.820 (97.321)
23.49 (17.52)	1421 (6.32)	6.20 (9.98)	2800	5.59	9th (3-3) Gear			200 (93.3)	60 (15.6)	70 (21.1)	28.840 (97.388)
23.47 (17.50)	1194 (5.31)	7.37 (11.87)	2800	4.53	10th (4-1) Gear			200 (93.1)	60 (15.6)	71 (21.7)	28.840 (97.388)

## LUGGING ABILITY IN 8th (3-2) GEAR

Crankshaft Speed rpm	2800	2518	2248	1948	1681	1395
Pull—lbs (kN)	1773 (7.89)	1939 (8.62)	2014 (8.96)	2012 (8.95)	2009 (8.93)	2000 (8.89)
Increase in Pull %	0	9	14	13	13	13
Power—Hp (kW)	23.00 (17.15)	22.42 (16.72)	20.68 (15.42)	17.90 (13.35)	15.43 (11.51)	12.76 (9.52)
Speed—Mph (km/h)	4.86 (7.83)	4.34 (6.98)	3.85 (6.20)	3.34 (5.37)	2.88 (4.64)	2.39 (3.85)
Slip %	7.21	8.03	8.40	8.50	8.40	8.31

Department of Agricultural Engineering

Dates of Test: September 24 to October 1, 1979

Manufacturer: ISHIKAWAJIMA-SHIBAURA  
MACHINERY CO. Ltd., Tokyo, Japan

**FUEL, OIL AND TIME:** Fuel No. 2 Diesel Cetane No. 49.0 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°60° (15°/15°)** 0.8430 **Fuel weight** 7.019 lbs/gal (0.841 kg/l) **Oil SAE 30 API service classification** SB/SE-CA/CD **To motor** 1.782 gal (6.745 l) **Drained from motor** 1.620 gal (6.132 l) **Transmission and final drive lubricant** Ford M2C134A fluid **Total time engine was operated** 33.0 hours.

**ENGINE:** Make Shibaura Diesel **Type** three cylinder vertical **Serial No.** LEM853-15539 **Crankshaft** lengthwise **Rated rpm** 2800 **Bore and stroke** 3.35" × 3.31" (85 mm × 84 mm) **Compression ratio** 21 to 1 **Displacement** 87.2 cu in (1429 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** oil bath steel wool **Oil filter** one paper cartridge **Fuel filter** one paper cartridge **Muffler** vertical **Cooling medium temperature control** one thermostat.

**CHASSIS:** **Type** standard **Serial No.** U-901206 **Tread width** rear 45.7" (1160 mm) to 61.0" (1550 mm) front 43.5" (1105 mm) to 57.5" (1460 mm) **Wheel base** 63.0" (1600 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 27.1" (688 mm) Vertical distance above roadway 27.9" (709 mm) Horizontal distance from center of rear wheel tread 0.2" (5 mm) to the right **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Advertised speeds mph (km/h)** first 0.8 (1.2) second 1.0 (1.7) third 1.3 (2.1) fourth 1.8 (2.9) fifth 2.4 (3.9) sixth 3.0 (4.8) seventh 4.0 (6.4) eighth 5.4 (8.6) ninth 6.7 (10.8) tenth 7.9 (12.7) eleventh 10.7 (17.2) twelfth 13.4 (21.6) reverse 0.9 (1.4), 2.1 (3.3), 4.6 (7.4), 9.2 (14.8) **Clutch** single dry disc operated by foot pedal **Brakes** expanding shoe operated by two foot pedals which can be locked together **Steering** mechanical **Turning radius** (on concrete surface with brake applied) right 94.5" (2.4 m) left 94.5" (2.4 m) (on concrete surface without brake) right 102.4" (2.6 m) left 102.4" (2.6 m) **Turning space diameter** (on concrete surface with brake applied) right 196.8" (5.0 m) left 196.8" (5.0 m) (on concrete surface without brake) right 220.4" (5.6 m) left 220.4" (5.6 m) **Power take-off** 540 rpm at 2452 engine rpm.

**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 181°F (82.5°C). Five gears were chosen between 15% and 10 mph (16.1 km/h).

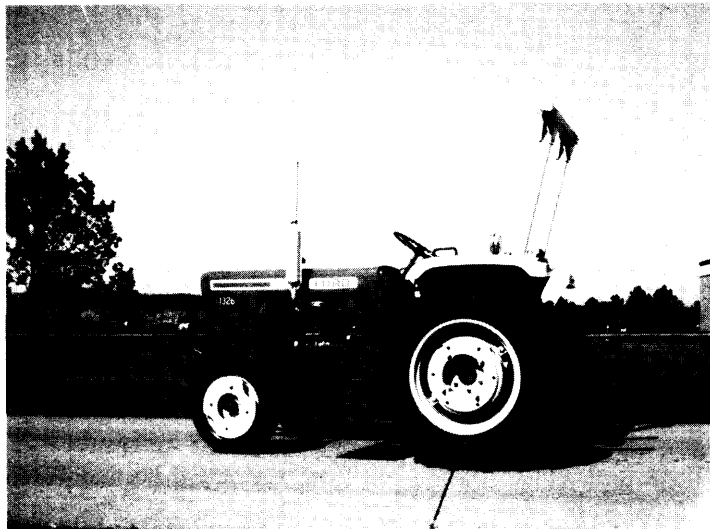
<b>TRACTOR SOUND LEVEL WITHOUT CAB</b>	<b>dB(A)</b>
Maximum Available Power—Two Hours	94.5
75% of Pull at Maximum Power—Ten Hours	92.5
50% of Pull at Maximum Power—Two Hours	92.5
50% of Pull at Reduced Engine Speed—Two Hours	87.5
Bystander in 12th (4-3) gear	82.0

<b>TIRES, BALLAST AND WEIGHT</b>		<b>With Ballast</b>	<b>Without Ballast</b>
<b>Rear Tires</b>	—No., size, ply & psi (kPa)	Two 12.4-24; 4; 14 (95)	Two 12.4-24; 4; 14 (95)
Ballast	—Liquid (each)	323 lb (147 kg)	None
	—Cast Iron (each)	130 lb (59 kg)	None
<b>Front Tires</b>	—No., size, ply & psi (kPa)	Two 5.00-15; 4; 40 (275)	Two 5.00-15; 4; 40 (275)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	160 lb (73 kg)	None
<b>Height of Drawbar</b>		17 in (430 mm)	17 in (430 mm)
<b>Static Weight with Operator</b> —Rear		2680 lb (1216 kg)	1775 lb (805 kg)
	Front	1480 lb (671 kg)	1160 lb (526 kg)
	Total	4160 lb (1887 kg)	2935 lb (1331 kg)

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1326**.

L. I. LEVITICUS  
Engineer-in-Charge

G. W. STEINBRUEGGE  
W. E. SPLINTER  
K. VON BARGEN  
Board of Tractor Test Engineers



**Ford 1900 Diesel**