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## Test 1285: Kubota L185 Diesel

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1285 — KUBOTA L185 DIESEL

## POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption		Hp. hr/gal (kW.h/l)	Cooling medium	Temperature °F (°C)		Barometer inch Hg (kPa)
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)			Air wet bulb	Air dry bulb	
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—622 rpm)								
15.33 (11.43)	2799	1.197 (4.530)	0.542 (0.329)	12.81 (2.524)	222 (105.8)	64 (17.6)	75 (23.9)	28.893 (97.568)
Standard Power Take-off Speed (540 rpm)—One Hour								
14.07 (10.49)	2430	1.035 (3.916)	0.510 (0.310)	13.60 (2.679)	221 (105.2)	64 (17.7)	75 (24.0)	28.920 (97.659)
Auxiliary Power Take-Off Speed (700 rpm)—One Hour								
14.09 (10.50)	2422	1.026 (3.884)	0.505 (0.307)	13.73 (2.705)	222 (105.7)	63 (17.3)	75 (23.9)	28.925 (97.675)
Auxiliary Power Take-Off Speed (1000 rpm)—One Hour								
14.01 (10.45)	2410	1.019 (3.856)	0.505 (0.307)	13.75 (2.710)	222 (105.8)	63 (17.3)	76 (24.4)	28.925 (97.675)

## VARYING POWER AND FUEL CONSUMPTION—Two Hours

13.50 (10.07)	2900	0.990 (3.747)	0.509 (0.310)	13.64 (2.686)	220 (104.4)	63 (17.2)	76 (24.7)	.....
0.00 (0.00)	3031	0.359 (1.358)	.....	.....	202 (94.7)	64 (17.5)	78 (25.3)	.....
6.93 (5.17)	2974	0.666 (2.520)	0.667 (0.405)	10.41 (2.051)	218 (103.3)	62 (16.9)	77 (25.0)	.....
15.35 (11.44)	2799	1.202 (4.549)	0.543 (0.331)	12.77 (2.516)	226 (107.8)	64 (17.5)	79 (26.1)	.....
3.48 (2.60)	2998	0.501 (1.898)	0.999 (0.608)	6.94 (1.368)	201 (93.9)	64 (17.5)	78 (25.6)	.....
10.31 (7.69)	2952	0.830 (3.142)	0.559 (0.340)	12.42 (2.447)	220 (104.2)	64 (17.8)	80 (26.4)	.....
<b>Av 8.26 Au (6.16)</b>	<b>2942</b>	<b>0.758 (2.869)</b>	<b>0.637 (0.387)</b>	<b>10.90 (2.147)</b>	<b>214 (101.4)</b>	<b>63 (17.4)</b>	<b>78 (25.5)</b>	<b>28.903 (97.602)</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	
Maximum Available Power—Two Hours 6th Gear											
12.47 (9.30)	1248 (5.55)	3.75 (6.03)	2798	9.75	1.201 (4.546)	0.668 (0.407)	10.38 (2.045)	227 (108.3)	73 (22.5)	80 (26.7)	28.780 (97.186)
75% of Pull at Maximum Power—Ten Hours 6th Gear											
10.38 (7.74)	971 (4.32)	4.01 (6.45)	2908	7.27	0.959 (3.632)	0.642 (0.390)	10.82 (2.131)	225 (107.4)	70 (20.9)	76 (24.4)	28.612 (96.618)
50% of Pull at Maximum Power—Two Hours 6th Gear											
7.16 (5.34)	646 (2.87)	4.16 (6.69)	2957	5.44	0.773 (2.926)	0.749 (0.456)	9.26 (1.824)	227 (108.3)	75 (23.6)	82 (27.5)	28.555 (96.426)
50% of Pull at Reduced Engine Speed—Two Hours 7th Gear											
7.09 (5.29)	641 (2.85)	4.15 (6.68)	2051	5.01	0.612 (2.318)	0.599 (0.364)	11.59 (2.282)	228 (108.6)	76 (24.4)	88 (31.1)	28.535 (96.358)

## MAXIMUM POWER IN SELECTED GEARS

11.00 (8.20)	1939 (8.63)	2.13 (3.42)	2895	14.98	4th Gear		225 (107.2)	73 (22.8)	77 (25.0)	28.560 (96.443)
12.46 (9.29)	1699 (7.56)	2.75 (4.43)	2797	14.02	5th Gear		221 (105.0)	69 (20.6)	75 (23.9)	28.820 (97.321)
12.91 (9.63)	1294 (5.75)	3.74 (6.02)	2799	9.91	6th Gear		225 (107.2)	69 (20.6)	76 (24.4)	28.840 (97.388)
13.03 (9.72)	877 (3.90)	5.57 (8.97)	2800	6.60	7th Gear		226 (107.5)	69 (20.6)	75 (23.9)	28.830 (97.355)

Department of Agricultural Engineering

Dates of Test: August 25 to September 19, 1978

Manufacturer: KUBOTA, LTD, 22 Fundae-cho 2 chome Naniwa-ku, Osaka, Japan

**FUEL, OIL AND TIME:** Fuel No. 2 Diesel Cetane No. 50.4 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° (15°/15°) 0.8335 Fuel weight 6.940 lbs/gal (0.834 kg/l) Oil SAE 20-20W API service classification SB/SE-CA/CD To motor 0.790 gal (2.990 l) Drained from motor 0.649 gal (2.458 l) Transmission and final drive lubricant SAE 80 Total time engine was operated 51.0 hours.

**ENGINE** Make Kubota Diesel Type 2 cylinder vertical Serial No. Z751-A07780 Crankshaft lengthwise Rated rpm 2800 Bore and Stroke 3.0" x 3.23" (76 mm x 82 mm) Compression ratio 21 to 1 Displacement 45.3 cu in (743 ml) Cranking system 12 volt Lubrication pressure Air cleaner one paper element Oil filter one full flow paper cartridge Fuel filter one spin on paper cartridge Muffler horizontal Cooling medium temperature control thermosyphon.

**CHASSIS:** Type Standard Serial No. L185-53075 Tread width rear 40.6" (1030 mm) front 39.8" (1010 mm) Wheel base 59.8" (1520 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 24.4" (620 mm) Vertical distance above roadway 27.2" (690 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 0.8 (1.2) second 1.0 (1.6) third 1.4 (2.3) fourth 2.5 (4.0) fifth 3.3 (5.2) sixth 4.2 (6.8) seventh 6.1 (9.8) eighth 11.3 (18.2) reverse 1.3 (2.1), 5.5 (8.9) Clutch single dry disc operated by foot pedal Brakes wet disc operated by two foot pedals which can be locked together Steering mechanical Turning radius (on concrete surface with brake applied) right 87" (2.21 m) left 93" (2.36 m) (on concrete surface without brake) right 97" (2.46 m) left 102" (2.59 m) Turning space diameter (on concrete surface with brake applied) right 177" (4.50 m) left 189" (4.80 m) (on concrete surface without brake) right 197" (5.00 m) left 207" (5.26 m) Power take-off 540 rpm at 2430 engine rpm and, 700 rpm at 2422 engine rpm and 1000 rpm at 2410 engine rpm.

**REPAIRS and ADJUSTMENTS:** No repairs or adjustments.

# **LUGGING ABILITY IN RATED GEAR 6th**

Crankshaft Speed rpm	2799	2517	2244	1961	1672	1394
Pull—lbs (kN)	1294 (5.75)	1341 (5.96)	1367 (6.08)	1367 (6.08)	1367 (6.08)	1343 (5.97)
Increase in Pull %	0	4	6	6	6	4
Power—Hp (kW)	12.91 (9.63)	11.97 (8.92)	10.85 (8.09)	9.47 (7.06)	8.06 (6.01)	6.59 (4.92)
Speed—Mph (km/h)	3.74 (6.02)	3.35 (5.39)	2.98 (4.79)	2.60 (4.18)	2.21 (3.56)	1.84 (2.96)
Slip %	9.91	10.36	10.60	10.77	10.77	10.69

# **TRACTOR SOUND LEVEL WITHOUT CAB      dB(A)**

Maximum Available Power—Two Hours	93.5
75% of Pull at Maximum Power—Ten Hours	93.0
50% of Pull at Maximum Power—Two Hours	90.0
50% of Pull at Reduced Engine Speed—Two Hours	87.5
Bystander in 8th gear	79.0

# **TIRES, BALLAST AND WEIGHT**

		With Ballast	Without Ballast
<b>Rear Tires</b>			
—No., size, ply & psi (kPa)		Two 9.5/9-24; 4; 14 (95)	Two 9.5/9-24; 4; 14 (95)
Ballast			
—Liquid (each)		120 lb (54 kg)	None
—Cast Iron (each)		406 lb (184 kg)	None
<b>Front Tires</b>			
—No., size, ply & psi (kPa)		Two 4.00-15; 4; 40 (275)	Two 4.00-15; 4; 40 (275)
Ballast			
—Liquid (each)		None	None
—Cast Iron (each)		189 lb (86 kg)	None
<b>Height of Drawbar</b>		15 in (380 mm)	15 in (380 mm)
<b>Static Weight with Operator—Rear</b>		2310 lb (1048 kg)	1258 lb (571 kg)
—Front		1060 lb (481 kg)	682 lb (309 kg)
—Total		3370 lb (1529 kg)	1940 lb (880 kg)

**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 136°F (58.0°C). Four 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 **1285**.

L. I. LEVITICUS  
Engineer-in-Charge

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



**Kubota L185 Diesel**