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Test 1370: Kubota L295 DT Diesel 8-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1370 — KUBOTA L295 DT DIESEL ALSO KUBOTA L295 DIESEL 8 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		
MAXIMUM POWER AND FUEL CONSUMPTION									
Rated Engine Speed—Two Hours (PTO Speed—622 rpm)									
26.46 (19.73)	2800	1.891 (7.158)	0.499 (0.303)	13.99 (2.756)	224 (106.7)	59 (14.9)	75 (23.9)	28.857 (97.445)	
Standard Power Take-off Speed (540 rpm)—One Hour									
24.91 (18.58)	2430	1.707 (6.462)	0.478 (0.291)	14.59 (2.875)	222 (105.7)	59 (14.8)	75 (24.1)	28.840 (97.388)	
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
22.95 (17.11)	2854	1.617 (6.121)	0.492 (0.299)	14.19 (2.795)	200 (93.3)	60 (15.3)	77 (25.0)	..... .....
0.00 (0.00)	3028	0.546 (2.067)	..... .....	..... .....	184 (84.4)	60 (15.6)	79 (25.8)	..... .....
11.79 (8.79)	2935	1.036 (3.922)	0.613 (0.373)	11.38 (2.241)	189 (86.9)	60 (15.6)	79 (26.1)	.....
26.64 (19.87)	2802	1.927 (7.294)	0.504 (0.307)	13.83 (2.724)	216 (101.9)	61 (15.8)	80 (26.4)	..... .....
5.95 (4.44)	2964	0.770 (2.915)	0.903 (0.549)	7.73 (1.523)	185 (85.0)	61 (16.1)	81 (27.2)	..... .....
17.52 (13.06)	2906	1.325 (5.016)	0.528 (0.321)	13.22 (2.604)	191 (88.3)	62 (16.7)	81 (27.2)	..... .....
Av Av	14.14 (10.54)	2915	1.203 (4.554)	0.594 (0.361)	11.75 (2.314)	194 (90.0)	61 (15.8)	79 (26.3)	28.827 (97.343)

DRAWBAR PERFORMANCE (Front Wheel Drive Disengaged)

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption		Temp. °F (°C)	Cool- ing med	Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)					
Maximum Available Power—Two Hours 6th (H2) Gear											
21.56 (16.08)	1860 (8.27)	4.35 (6.99)	2800	8.34	1.864 (7.054)	0.603 (0.367)	11.57 (2.279)	198 (91.9)	54 (12.2)	69 (20.6)	28.820 (97.321)
75% of Pull at Maximum Power—Ten Hours 6th (H2) Gear											
18.16 (13.54)	1480 (6.58)	4.60 (7.41)	2908	6.55	1.595 (6.037)	0.613 (0.373)	11.39 (2.243)	189 (87.3)	52 (10.9)	53 (11.9)	28.753 (97.095)
50% of Pull at Maximum Power—Two Hours 6th (H2) Gear											
12.53 (9.34)	991 (4.41)	4.74 (7.63)	2940	4.84	1.308 (4.952)	0.728 (0.443)	9.58 (1.887)	187 (85.8)	60 (15.3)	62 (16.4)	28.430 (96.004)
50% of Pull at Reduced Engine Speed—Two Hours 7th (H3) Gear											
12.63 (9.42)	994 (4.42)	4.77 (7.67)	2050	4.42	1.057 (4.002)	0.584 (0.355)	11.95 (2.353)	187 (86.1)	63 (17.2)	69 (20.6)	28.360 (95.767)

MAXIMUM POWER IN SELECTED GEARS

21.29 (15.87)	3155 (14.03)	2.53 (4.07)	2829	14.98		4th (L4) Gear	198 (91.9)	52 (11.1)	65 (18.3)	28.840 (97.388)
22.02 (16.42)	2547 (11.33)	3.24 (5.22)	2799	11.05		5th (H1) Gear	198 (91.9)	50 (10.0)	62 (16.7)	28.860 (97.456)
22.82 (17.02)	1969 (8.76)	4.34 (6.99)	2800	8.48		6th (H2) Gear	191 (88.1)	46 (7.8)	54 (12.2)	28.840 (97.388)
21.93 (16.36)	1281 (5.70)	6.42 (10.33)	2800	5.71		7th (H3) Gear	194 (90.0)	51 (10.6)	63 (17.2)	28.850 (97.422)

LUGGING ABILITY IN 6th (H2) GEAR

Crankshaft Speed rpm	2800	2529	2236	1956	1676	1393	1112
Pull—lbs (kN)	1969 (8.76)	2087 (9.28)	2216 (9.86)	2245 (9.99)	2314 (10.29)	2338 (10.40)	2171 (9.66)
Increase in Pull %	0	6	13	14	18	19	10
Power—Hp (kW)	22.82 (17.02)	21.70 (16.18)	20.23 (15.09)	17.91 (13.35)	15.75 (11.75)	13.21 (9.85)	9.87 (7.36)
Speed—Mph (km/h)	4.34 (6.99)	3.90 (6.28)	3.42 (5.51)	2.99 (4.81)	2.55 (4.11)	2.12 (3.41)	1.71 (2.75)
Slip %	8.48	8.99	9.62	9.81	10.16	10.25	9.44

Department of Agricultural Engineering

Dates of Test: October 7-17, 1980

Manufacturer: KUBOTA, LTD., 2-47 Shikitsu-Higashi 1-chome Naniwa-ku, Osaka Japan

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°) 0.8378 Fuel weight 6.976 lbs/gal (0.836 kg/l) Oil SAE 20-20W API service classification SB/SE-CA/CD To motor 1.465 gal (5.546 l) Drained from motor 1.355 gal (5.129 l) Transmission and final drive lubricant SAE 80 or tractor hydraulic fluid Front axle lubricant SAE 90 Total time engine was operated 44.0 hours

ENGINE: Make Kubota Diesel Type three cylinder vertical Serial No. D1301-A-05606 Crankshaft lengthwise Rated rpm 2800 Bore and stroke 3.23" × 3.23" (82 mm × 82 mm) Compression ratio 21 to 1 Displacement 79.3 cu in (1299 ml) Starting system 12 volt Lubrication pressure Air cleaner one paper element Oil filter one full flow paper cartridge Fuel filter one paper cartridge Muffler horizontal Cooling medium temperature control one thermostat

CHASSIS: Type front wheel assist Serial No. L295DT-13670 Tread width rear 44.1" (1120 mm) to 58.7" (1490 mm) front 43.3" (1100 mm) Wheel base 65.4" (1660 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 30.5" (774 mm) Vertical distance above roadway 31.7" (805 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 0.9 (1.4) second 1.1 (1.8) third 1.6 (2.6) fourth 3.0 (4.9) fifth 3.8 (6.0) sixth 4.9 (7.8) seventh 7.0 (11.3) eighth 13.1 (21.0) reverse 1.5 (2.4), 6.4 (10.3) Clutch dry single 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 98.3" (2.50 m) left 98.3" (2.50 m) (on concrete surface without brake) right 130" (3.30 m) left 130" (3.30 m) Turning space diameter (on concrete surface with brake applied) right 201" (5.10 m) left 201" (5.10 m) (on concrete surface without brake) right 264" (6.70 m) left 264" (6.70 m) Power take-off 540 rpm at 2430 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 150°F (65.8°C). Four gears were chosen between 15% slip and 10 mph (16.1 km/h).

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)	Front Wheel Drive Disengaged dB(A)
Maximum Available Power—Two Hours	94.5	95.5
75% of Pull at Maximum Power—Ten Hours		94.0
50% of Pull at Maximum Power—Two Hours		91.5
50% of Pull at Reduced Engine Speed—Two Hours		89.5
Bystander in 8th (H4) gear		81.5

DRAWBAR PERFORMANCE (Front Wheel Drive Engaged)

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			
					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	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 6th (H2) Gear											
21.09 (15.73)	1754 (7.80)	4.51 (7.26)	2800	6.67	1.828 (6.919)	0.604 (0.368)	11.54 (2.273)	203 (94.7)	56 (13.1)	73 (22.8)	28.800 (97.253)

MAXIMUM POWER IN SELECTED GEARS

13.33 (9.94)	3484 (15.50)	1.43 (2.31)	2938	14.85	3rd (L3) Gear			187 (85.8)	44 (6.7)	51 (10.6)	28.830 (97.353)
22.76 (16.97)	1894 (8.43)	4.50 (7.25)	2800	6.75	6th (H2) Gear			192 (88.9)	49 (9.4)	59 (15.0)	28.860 (97.456)

TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Two 12.4-24; 6; 16 (110)	Two 12.4-24; 6; 16 (110)
Ballast	—Liquid (each)	312 lb (142 kg)	None
	—Cast Iron (each)	480 lb (218 kg)	None
Front Tires	—No., size, ply & psi (kPa)	Two 7-16; 4; 26 (180)	Two 7-16; 4; 26 (180)
Ballast	—Liquid (each)	42 lb (19 kg)	None
	—Cast Iron (each)	68 lb (31 kg)	None
Height of Drawbar		18.5 in (470 mm)	18.5 in (470 mm)
Static Weight with Operator	—Rear	3270 lb (1483 kg)	1685 lb (764 kg)
	—Front	1430 lb (649 kg)	1210 lb (549 kg)
	—Total	4700 lb (2132 kg)	2895 lb (1313 kg)

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1370**.

LOUIS I. LEVITICUS
Engineer-in-Charge

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Board of Tractor Test Engineers



Kubota L295 DT Diesel

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