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Test 1555: Kubota L3750 FWD and 2WD Diesel 8-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1555—KUBOTA L3750 4WD DIESEL ALSO KUBOTA L3750 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 —602 rpm)									
36.96 (27.56)	2500	2.232 (8.449)	0.421 (0.256)	16.56 (3.263)	186 (85.6)	56 (13.1)	75 (23.9)	29.12 (98.32)	
Standard Power Take-off Speed (540 rpm) — One Hour									
36.81 (27.45)	2243	2.125 (8.044)	0.403 (0.245)	17.32 (3.413)	188 (86.5)	56 (13.2)	75 (24.1)	29.12 (98.33)	
VARYING POWER AND FUEL CONSUMPTION — Two Hours									
31.89 (23.78)	2538	1.983 (7.507)	0.434 (0.264)	16.08 (3.168)	184 (84.2)	56 (13.1)	75 (23.6)	..... .....
0.00 (0.00)	2687	0.701 (2.654)	..... .....	..... .....	179 (81.7)	56 (13.3)	75 (23.9)	..... .....
16.29 (12.15)	2593	1.303 (4.934)	0.558 (0.339)	12.50 (2.462)	181 (82.8)	56 (13.1)	75 (23.9)	..... .....
37.46 (27.93)	2500	2.254 (8.533)	0.420 (0.255)	16.62 (3.274)	187 (85.8)	56 (13.3)	76 (24.2)	..... .....
8.30 (6.19)	2638	0.994 (3.762)	0.835 (0.508)	8.35 (1.645)	180 (81.9)	56 (13.3)	76 (24.4)	..... .....
24.22 (18.06)	2570	1.635 (6.188)	0.471 (0.286)	14.82 (2.919)	182 (83.3)	56 (13.3)	76 (24.2)	..... .....
Av Av	19.69 (14.69)	2587	1.478 (5.596)	0.524 (0.318)	13.32 (2.624)	182 (83.3)	56 (13.2)	75 (24.0)	29.10 (98.25)

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)			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 (H2) Gear											
30.11 (22.45)	2281 (10.14)	4.95 (7.97)	2501	8.24	2.266 (8.576)	0.525 (0.319)	13.29 (2.618)	185 (85.0)	39 (3.6)	48 (8.9)	29.41 (99.30)
75% of Pull at Maximum Power — Ten Hours 6th (H2) Gear											
24.19 (18.04)	1739 (7.74)	5.22 (8.39)	2569	5.90	1.937 (7.333)	0.558 (0.340)	12.49 (2.460)	185 (84.8)	42 (5.4)	52 (11.0)	29.11 (98.29)
50% of Pull at Maximum Power — Two Hours 6th (H2) Gear											
16.62 (12.40)	1160 (5.16)	5.37 (8.65)	2597	4.06	1.556 (5.889)	0.653 (0.397)	10.69 (2.105)	184 (84.4)	52 (10.8)	56 (13.1)	28.88 (97.52)
50% of Pull at Reduced Engine Speed — Two Hours 7th (H3) Gear											
16.58 (12.36)	1159 (5.16)	5.36 (8.63)	1576	3.75	1.247 (4.722)	0.525 (0.319)	13.29 (2.618)	186 (85.3)	56 (13.3)	63 (17.2)	28.86 (97.44)
MAXIMUM POWER IN SELECTED GEARS											
26.72 (19.92)	3641 (16.19)	2.75 (4.43)	2548	14.84	4th (L4) Gear			185 (85.0)	49 (9.4)	51 (10.6)	28.79 (97.22)
29.82 (22.23)	3175 (14.12)	3.52 (5.67)	2500	12.37	5th (H1) Gear			185 (84.7)	36 (2.2)	43 (6.1)	29.44 (99.41)
30.69 (22.88)	2319 (10.32)	4.96 (7.99)	2497	7.84	6th (H2) Gear			185 (84.7)	36 (2.2)	43 (6.1)	29.44 (99.41)
28.44 (21.21)	1262 (5.61)	8.45 (13.60)	2502	4.60	7th (H3) Gear			184 (84.4)	37 (2.8)	45 (7.2)	29.44 (99.41)
LUGGING ABILITY IN 6th (H2) GEAR											
Crankshaft Speed rpm				2497	2243	2006	1751	1508	1249	1022	
Pull—lbs (kN)				2319 (10.32)	2597 (11.55)	2775 (12.34)	2919 (12.98)	2981 (13.26)	3021 (13.44)	2971 (13.22)	
Increase in Pull %				0	12	20	26	29	30	28	
Power—Hp (kW)				30.69 (22.88)	30.48 (22.73)	28.86 (21.52)	26.24 (19.57)	22.97 (17.13)	19.21 (14.32)	15.51 (11.56)	
Speed—Mph (km/h)				4.96 (7.99)	4.40 (7.08)	3.90 (6.28)	3.37 (5.43)	2.89 (4.65)	2.38 (3.84)	1.96 (3.15)	
Slip %				7.84	8.99	9.91	10.71	11.21	11.50	11.31	

Department of Agricultural Engineering

Dates of Test: March 25 to April 11, 1985

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

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 48.3 (rating taken from oil company's inspection data) Specific gravity converted to 60/60°F (15/15°C) 0.8376 Fuel weight 6.974 lbs/gal (0.836 kg/l) Oil SAE 20W API service classification CC, CD, SE To motor 2.202 gal (8.335 l) Drained from motor 2.119 gal (8.022 l) Transmission and hydraulic lubricant Shell Donax TD or equivalent Front axle lubricant SAE 80/90 gear oil Total time engine was operated 46.5 hours.

ENGINE: Make Kubota Diesel Type five cylinder vertical Serial No. F2302-DI-L-DC-32719 Crankshaft lengthwise Rated rpm 2500 Bore and stroke 3.35" × 3.23" (85 mm × 82 mm) Compression ratio 18 to 1 Displacement 142 cu in (2326 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements Oil filter one full flow cartridge Fuel filter one paper element Muffler underhood Exhaust vertical Cooling medium temperature control one thermostat.

CHASSIS: Type front wheel assist Serial No. L3750DT-50782 Tread width rear 52" (1320 mm) to 76" (1930 mm) front 52" (1320 mm) Wheel base 76.4" (1940 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 30.2" (767 mm) Vertical distance above roadway 31.0" (787 mm) Horizontal distance from center of rear wheel tread 0.3" (7 mm) to the right Hydraulic control system direct engine drive Transmission selective gear fixed ratio Advertised speeds mph (km/h) first 1.0 (1.6) second 1.3 (2.1) third 2.2 (3.5) fourth 3.3 (5.3) fifth 4.2 (6.8) sixth 5.6 (9.1) seventh 9.2 (14.9) eighth 14.2 (22.8) reverse 1.0 (1.6), 1.3 (2.1), 2.1 (3.5), 3.3 (5.3), 4.2 (6.7), 5.6 (9.0), 9.2 (14.8), 14.1 (22.6) Clutch single dry disc operated by foot pedal Brakes multiple wet disc operated by two foot pedals which can be locked together Steering power assist Turning radius (on concrete surface with brake applied) right 114" (2.9 m) left 114" (2.9 m) (on concrete surface without brake) right 134" (3.4 m) left 134" (3.4 m) Turning space diameter (on concrete surface with brake applied) right 236" (6.0 m) left 236" (6.0 m) (on concrete surface without brake) right 276" (7.0 m) left 276" (7.0 m) Power take-off 540 rpm at 2243 engine rpm Unladen tractor mass 4240 lb (1923 kg).

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged dB(A)
Maximum Available Power—Two Hours	94.5	94.0
75% of Pull at Maximum Power—Ten Hours		93.5
50% of Pull at Maximum Power—Two Hours		92.5
50% of Pull at Reduced Engine Speed—Two Hours		88.5
Bystander in 8th (H4) gear		84.5

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											
30.15 (22.48)	2188 (9.73)	5.17 (8.32)	2500	5.87	2.266 (8.576)	0.524 (0.319)	13.31 (2.622)	185 (84.7)	40 (4.4)	51 (10.6)	29.33 (99.04)

MAXIMUM POWER IN SELECTED GEARS

23.80 (17.75)	4861 (21.62)	1.84 (2.95)	2560	14.94	3rd (L3) Gear			185 (85.0)	48 (8.9)	50 (10.0)	28.88 (97.52)
30.53 (22.77)	3049 (13.56)	3.76 (6.04)	2501	8.20	5th (H1) Gear			185 (84.7)	36 (2.2)	44 (6.7)	29.44 (99.41)
30.57 (22.79)	2218 (9.87)	5.17 (8.32)	2500	5.78	6th (H2) Gear			185 (84.7)	35 (1.7)	42 (5.6)	29.44 (99.41)

TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Two 13.6-28; 6; 14 (95)	Two 13.6-28; 6; 14 (95)
Ballast	—Liquid (each)	172 lb (78 kg)	None
	—Cast Iron (each)	260 lb (118 kg)	None
Front Tires	—No., size, ply & psi (kPa)	Two 9.5-16; 6; 32 (220)	Two 9.5-16; 6; 32 (220)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	332 lb (151 kg)	None
Height of Drawbar		16 in (405 mm)	16 in (405 mm)
Static Weight with Operator—Rear		3585 lb (1626 kg)	2720 lb (1234 kg)
	—Front	2360 lb (1071 kg)	1695 lb (769 kg)
	—Total	5945 lb (2697 kg)	4415 lb (2003 kg)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi (kPa)	2525	(17410)
Location	remote outlet	
Hydraulic oil temperature °F (°C)	182	(83)
Location	suction pipe	
	Maximum Lift Capacity	Lift Capacity for Transport
QUICK ATTACH	no	
CATEGORY	I	*not measured
LOAD lbs (kg)	2652	(1203)
TIME sec	1.93	
HITCH POINT MOVEMENT in (mm)		
Lowest position	9.0	(229)
Top of timed range	31.1	(790)
Highest position	32.2	(818)
LOAD CG MOVEMENT in (mm)		
Lowest position	9.4	(239)
Top of timed range	33.1	(841)
Highest position	34.7	(881)

*Implement load capacity for transport purposes not specified by manufacturer.

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

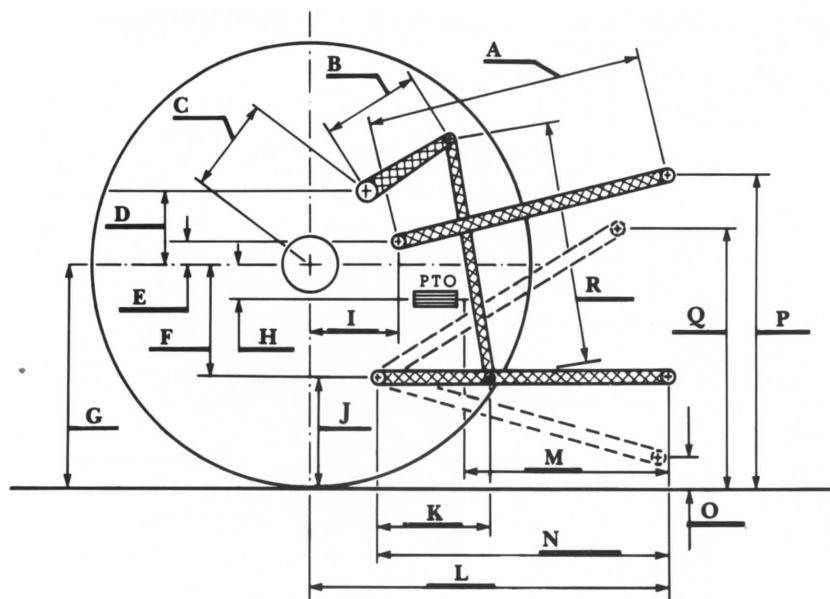
REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test codes and the technically equivalent ISO test codes or official Nebraska test procedure. For the maximum power tests, the fuel temperature at the injection pump was maintained at 132°F (55.7°C). Four gears were chosen between 15% slip and 10 mph (16.1 km/h).

We, the undersigned, certify that this is as true and correct report of official Tractor Test No. 1555, June 12, 1985.

LOUIS I. LEVITICUS
Engineer-in-Charge

K. VON BARGEN
L. L. BASHFORD
T. L. THOMPSON

Board of Tractor Test Engineers



Hitch Dimensions as Tested — No Load

	inch	mm
A	23.6	600
B	9.5	240
C	11.6	294
D	11.0	279
E	10.6	269
F	7.1	180
G	23.3	593
H	0.5	13
I	11.9	301
J	16.3	413
K	14.6	370
L	35.2	894
M	20.3	517
N	31.1	790
O	8.0	203
P	34.3	870
Q	32.3	819
R	19.0	483



Kubota L3750 4WD Diesel