

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

---

11-5-1985

## Test 1585: Kubota L2250 2WD and 4WD Diesel 8-Speed

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

---

Nebraska Tractor Test Lab, "Test 1585: Kubota L2250 2WD and 4WD Diesel 8-Speed" (1985). *Nebraska Tractor Tests*. 1896.

<https://digitalcommons.unl.edu/tractormuseumlit/1896>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# NEBRASKA TRACTOR TEST 1585—KUBOTA L2250 4WD DIESEL ALSO KUBOTA L2250 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 — 577 rpm)									
21.15 (15.77)	2599	1.270 (4.806)	0.421 (0.256)	16.66 (3.282)	187 (86.3)	58 (14.5)	75 (23.6)	29.04 (98.07)	
* Standard Power Take-off Speed (540 rpm) — One Hour									
21.45 (16.00)	2432	1.249 (4.728)	0.408 (0.248)	17.18 (3.383)	191 (88.3)	59 (15.1)	75 (24.1)	29.03 (98.03)	
VARYING POWER AND FUEL CONSUMPTION — Two Hours									
18.28 (13.63)	2649	1.125 (4.258)	0.432 (0.262)	16.25 (3.202)	184 (84.4)	59 (15.0)	75 (23.9)	..... .....	
0.00 (0.00)	2784	0.411 (1.554)	..... .....	..... .....	180 (82.2)	59 (15.0)	75 (23.9)	..... .....	
9.36 (6.98)	2703	0.731 (2.769)	0.548 (0.333)	12.80 (2.521)	182 (83.3)	60 (15.3)	76 (24.2)	..... .....	
20.93 (15.61)	2603	1.240 (4.695)	0.416 (0.253)	16.88 (3.325)	187 (86.1)	60 (15.6)	76 (24.4)	..... .....	
4.76 (3.55)	2757	0.599 (2.267)	0.882 (0.537)	7.95 (1.566)	181 (82.5)	60 (15.3)	75 (23.9)	..... .....	
13.90 (10.36)	2679	0.920 (3.481)	0.464 (0.282)	15.11 (2.977)	183 (83.9)	59 (15.0)	75 (23.9)	..... .....	
Av Av	11.21 (8.36)	2696	0.838 (3.171)	0.524 (0.319)	13.38 (2.635)	183 (83.8)	59 (15.2)	75 (24.0)	29.04 (98.06)

### DRAWBAR PERFORMANCE (Front Wheel Drive Disengaged)

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 6th (H-2) Gear											
16.88 (12.59)	1260 (5.60)	5.03 (8.09)	2600	8.61	1.255 (4.749)	0.521 (0.317)	13.46 (2.651)	187 (86.1)	48 (8.6)	57 (13.6)	28.59 (96.53)
75% of Pull at Maximum Power — Ten Hours 6th (H-2) Gear											
13.62 (10.16)	964 (4.29)	5.30 (8.53)	2676	6.42	1.102 (4.172)	0.567 (0.345)	12.36 (2.435)	186 (85.5)	44 (6.6)	54 (12.1)	28.76 (97.12)
50% of Pull at Maximum Power — Two Hours 6th (H-2) Gear											
9.34 (6.96)	644 (2.86)	5.44 (8.76)	2695	4.52	0.875 (3.314)	0.657 (0.400)	10.67 (2.102)	185 (85.0)	45 (6.9)	49 (9.4)	28.92 (97.66)
50% of Pull at Reduced Engine Speed — Two Hours 7th (H-3) Gear											
9.34 (6.97)	644 (2.86)	5.44 (8.76)	1715	4.61	0.739 (2.796)	0.554 (0.337)	12.65 (2.492)	186 (85.3)	43 (6.1)	47 (8.3)	28.68 (96.85)
MAXIMUM POWER IN SELECTED GEARS											
12.40 (9.24)	2103 (9.35)	2.21 (3.56)	2678	14.92	4th (L-4) Gear			185 (85.0)	40 (4.4)	42 (5.6)	28.72 (96.98)
17.00 (12.68)	1854 (8.24)	3.44 (5.54)	2599	12.94	5th (H-1) Gear			186 (85.3)	44 (6.7)	49 (9.4)	28.96 (97.79)
17.28 (12.89)	1285 (5.72)	5.04 (8.12)	2601	8.36	6th (H-2) Gear			186 (85.3)	43 (6.1)	48 (8.9)	28.98 (97.86)
16.03 (11.96)	732 (3.25)	8.22 (13.23)	2599	4.84	7th (H-3) Gear			186 (85.3)	45 (7.2)	49 (9.4)	28.95 (97.76)
LUGGING ABILITY IN 6th (H-2) GEAR											
Crankshaft Speed rpm				2601	2334	2083	1819	1564	1313		
Pull—lbs (kN)				1285 (5.72)	1476 (6.57)	1626 (7.23)	1756 (7.81)	1800 (8.01)	1735 (7.72)		
Increase in Pull %				0	15	27	37	40	35		
Power—Hp (kW)				17.28 (12.89)	17.55 (13.09)	17.06 (12.72)	15.90 (11.85)	13.94 (10.39)	11.34 (8.46)		
Speed—Mph (km/h)				5.04 (8.12)	4.46 (7.18)	3.94 (6.33)	3.39 (5.46)	2.90 (4.67)	2.45 (3.94)		
Slip %				8.36	9.69	10.67	11.86	12.25	11.86		

Department of Agricultural Engineering

**Dates of Test:** October 28 to November 5, 1985

**Manufacturer:** KUBOTA, LTD., 2-47, Shikitsu-higashi 1-chome, Naniwaku, Osaka, Japan

**FUEL, OIL AND TIME:** Fuel No. 2 Diesel Cetane No. 46.9 (rating taken from oil company's inspection data) Specific gravity converted to 60/60°F (15/15°C) 0.8424 Fuel weight 7.014 lbs/gal (0.841 kg/l) Oil SAE 20W API service classification CC-CD-SE To motor 1.088 gal (4.120 l) Drained from motor 1.097 gal (4.154 l) Transmission and final drive lubricant Shell Donax TD or equivalent Front axle lubricant SAE 80-90 gear oil Total time engine was operated 39.5 hours.

**ENGINE:** Make Kubota Diesel Type three cylinder vertical Serial No. D1302-DI-A-11943 Crankshaft lengthwise Rated rpm 2600 Bore and stroke 3.23" × 3.23" (82 mm × 82 mm) Compression ratio 18 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 cartridge Fuel filter one paper element Muffler vertical Cooling medium temperature control one thermostat.

**CHASSIS:** Type front wheel assist Serial No. L2250D-51189 Tread width rear 40.0" (1015 mm) to 44.7" (1135 mm) front 39.8" (1010 mm) Wheel base 64.6" (1640 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 30.3" (770 mm) Vertical distance above roadway 28.5" (725 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 1.2 (1.9) third 1.9 (3.0) fourth 2.7 (4.3) fifth 4.2 (6.7) sixth 5.8 (9.4) seventh 9.1 (14.7) eighth 12.9 (20.8) reverse 0.8 (1.3), 1.1 (1.7), 1.7 (2.7), 2.4 (3.9), 3.8 (6.0), 5.2 (8.4), 8.2 (13.2) Clutch single dry disc operated by foot pedal Brakes multiple wet disc operated by two foot pedals which can be locked together Steering mechanical Turning radius (on concrete surface with brake applied) right 87" (2.2 m) left 87" (2.2 m) (on concrete surface without brake) right 95" (2.4 m) left 95" (2.4 m) Turning space diameter (on concrete surface with brake applied) right 181" (4.6 m) left 181" (4.6 m) (on concrete surface without brake) right 197" (5.0 m) left 197" (5.0 m) Power take-off 540 rpm at 2432 engine rpm Unladen tractor mass 2425 lb (1100 kg).

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive	
	Engaged dB(A)	Disengaged
Maximum Available Power—Two Hours	90.5	89.5
75% of Pull at Maximum Power—Ten Hours		90.0
50% of Pull at Maximum Power—Two Hours		89.5
50% of Pull at Reduced Engine Speed—Two Hours		87.0
Bystander in 8th (H-4) gear		82.0

### 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)			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 6th (H-2) Gear</b>											
16.84 (12.56)	1193 (5.31)	5.29 (8.52)	2599	6.14	1.283 (4.857)	0.534 (0.325)	13.13 (2.586)	188 (86.4)	49 (9.2)	60 (15.3)	28.52 (96.29)
<b>MAXIMUM POWER IN SELECTED GEARS</b>											
15.98 (11.92)	2673 (11.89)	2.24 (3.61)	2646	14.84	4th (L-4) Gear			186 (85.3)	39 (3.9)	41 (5.0)	28.72 (96.98)
17.11 (12.76)	1737 (7.72)	3.69 (5.95)	2600	8.86	5th (H-1) Gear			186 (85.3)	44 (6.7)	49 (9.4)	28.97 (97.83)
17.20 (12.83)	1216 (5.41)	5.30 (8.54)	2601	6.07	6th (H-2) Gear			186 (85.3)	42 (5.6)	46 (7.8)	28.99 (97.89)

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
<b>Rear Tires</b>	—No., size, ply & psi (kPa)	Two 9.5-24; 4; 14 (95)	Two 9.5-24; 4; 14 (95)
Ballast	—Liquid (each)	175 lb (79 kg)	None
	—Cast Iron (each)	48 lb (22 kg)	None
<b>Front Tires</b>	—No., size, ply & psi (kPa)	Two 6-14; 4; 28 (195)	Two 6-14; 4; 28 (195)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	42 lb (19 kg)	None
<b>Height of Drawbar</b>		13 in (330 mm)	13 in (330 mm)
<b>Static Weight with Operator</b> —Rear		1900 lb (862 kg)	1455 lb (660 kg)
—Front		1230 lb (558 kg)	1145 lb (519 kg)
—Total		3130 lb (1420 kg)	2600 lb (1179 kg)

### THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi (kPa)	2250 (15510)	
Location	lift cylinder	
Hydraulic oil temperature °F (°C)	164 (73)	
Location	hydraulic filter	
	<b>Maximum Lift Capacity</b>	<b>Lift Capacity for Transport</b>
QUICK ATTACH	no	
CATEGORY	I	*not measured
LOAD lbs (kg)	1540 (699)	
TIME sec	2.51	
<b>HITCH POINT MOVEMENT in (mm)</b>		
Lowest position	12.3 (312)	
Top of timed range	32.3 (820)	
Highest position	** 32.5 (826)	
<b>LOAD CG MOVEMENT in (mm)</b>		
Lowest position	11.4 (290)	
Top of timed range	37.7 (958)	
Highest position	38.3 (973)	

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

\*\* The observed power range, 20.2 in.(514 mm) is less than the minimum power range for Cat I, 22 in. (559 mm) specified by ASAE Standard S217.10

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

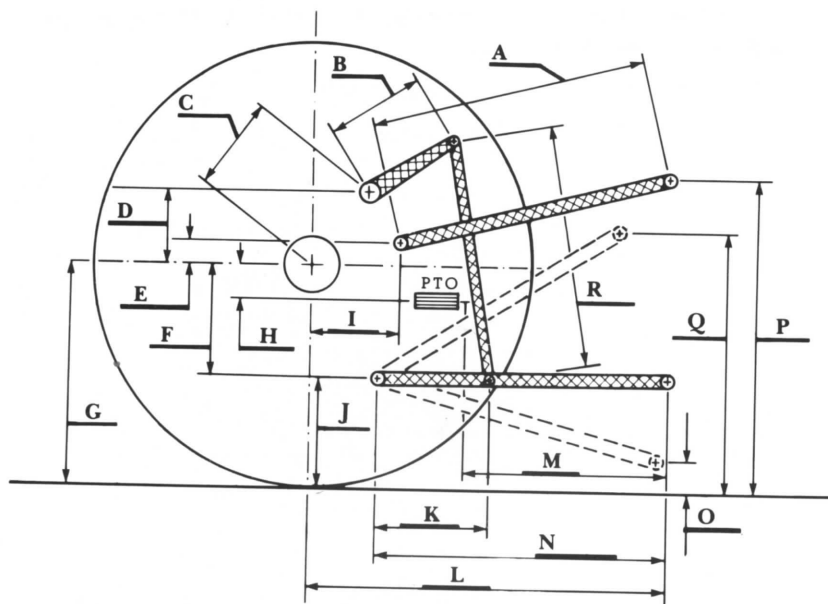
**REMARKS:** All test results were determined from observed data obtained in accordance with SAE and ASAE test codes and the technically equivalent ISO test codes or official Nebraska test procedure. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 111°F (43.9°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 No. **1585**, December 4, 1985.

LOUIS I. LEVITICUS  
Engineer-in-Charge

K. VON BARGEN  
W. E. SPLINTER  
L. L. BASHFORD

Board of Tractor Test Engineers



Hitch Dimensions as Tested — No Load

	inch	mm
A	25.0	635
B	9.1	230
C	12.0	305
D	12.0	305
E	9.9	251
F	3.4	85
G	19.1	485
H	-0.6	-16
I	4.7	120
J	15.8	400
K	11.2	285
L	29.2	742
M	22.4	569
N	24.8	630
O	6.5	165
P	33.8	857
Q	28.9	733
R	17.0	432



Kubota L2250 4WD Diesel