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January 1972

Test 1108: Long U445 Diesel (Also UTB U-445 Diesel and Long U-460 Diesel 6 and 8-Speed)

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1108 — LONG U445 DIESEL ALSO UTB U-445 DIESEL AND LONG U460 DIESEL 6 SPEED ALSO 8 SPEED

POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	Fuel Consumption		Hp-hr per gal	Temperature Degrees F			Barometer inches of Mercury
		Gal per hr	Lb per hp-hr		Cooling medium	Air wet bulb	Air dry bulb	
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—659 rpm)								
41.93	2400	3.144	0.522	13.34	204	57	75	29.115
Standard Power Take-off Speed (540 rpm)—One Hour								
36.53	1967	2.726	0.520	13.40	199	56	75	29.055
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
37.60	2531	2.541	0.471	14.80	196	57	76	.....
0.00	2541	0.836	.....	.....	189	57	75	.....
18.74	2522	1.551	0.576	12.08	192	56	75	.....
41.61	2401	3.179	0.532	13.09	202	56	76	.....
9.60	2583	1.202	0.872	7.99	190	55	75	.....
28.36	2547	2.007	0.493	14.13	192	56	75	.....
Av 22.65	2521	1.886	0.580	12.01	194	56	75	29.007

DRAWBAR PERFORMANCE

Hp	Drawbar pull lbs	Speed miles per hr	Crankshaft speed rpm	Slip of drivers %	Fuel Consumption		Hp-hr per gal	Temp Degrees F			Barometer inches of Mercury
					Gal per hr	Lb per hp-hr		Cooling med	Air wet bulb	Air dry bulb	

VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

Maximum Available Power—Two Hours—4th Gear											
36.98	2515	5.51	2396	5.49	3.123	0.588	11.84	198	65	71	28.700
75% of Pull at Maximum Power—Ten Hours—4th Gear											
30.56	1939	5.91	2537	4.19	2.301	0.524	13.28	190	56	63	28.997
50% of Pull at Maximum Power—Two Hours—4th Gear											
21.18	1310	6.07	2566	2.88	1.777	0.584	11.92	191	54	58	29.030
50% of Pull at Reduced Engine Speed—Two Hours—5th Gear											
21.33	1305	6.13	1438	3.08	1.543	0.504	13.82	190	54	65	29.030

MAXIMUM POWER WITH BALLAST

22.84	5910	1.45	2518	14.92	1st Gear		192	52	58	28.850
34.88	5148	2.54	2400	13.38	2nd Gear		196	69	73	28.650
35.80	3124	4.30	2399	6.90	3rd Gear		192	68	72	28.650
37.55	2554	5.51	2398	5.49	4th Gear		196	69	74	28.640
35.26	1288	10.27	2399	2.69	5th Gear		196	70	76	28.630

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST 4th Gear

Pounds Pull	2554	2573	2678	2751	2870	2737
Horsepower	37.55	33.96	31.33	28.28	25.15	19.93
Crankshaft Speed rpm	2398	2158	1916	1685	1441	1194
Miles Per Hour	5.51	4.95	4.39	3.85	3.29	2.73
Slip of Drivers %	5.49	5.62	5.86	5.86	6.23	5.86

TRACTOR SOUND LEVEL WITHOUT CAB

	dB (A)
Maximum Available Power 2 Hours	101.5
75% of Pull at Max. Power 10 Hours	98.5
50% of Pull at Max. Power 2 Hours	96.5
50% of Pull at Reduced Engine Speed 2 Hours	92.0
Bystander 6th Gear	85.5

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi Two 16.9-28; 6; 16	Two 16.9-28; 6; 16
Ballast	—Liquid 740 lb each	None
	—Cast Iron 750 lb each	None
Front Tires	—No., size, ply & psi Two 7.50-16; 4; 28	Two 7.50-16; 4; 28
Ballast	—Liquid None	None
	—Cast Iron 170 lb each	None
Height of Drawbar	19 inches	20 inches
Static Weight with Operator —Rear	5910 lb	2930 lb
—Front	1890 lb	1550 lb
—Total	7800 lb	4480 lb

The Agricultural Experiment Station
Institute of Agriculture and Natural Resources
University of Nebraska—Lincoln
Irvin T. Omtvedt, Dean and Director

Department of Agricultural Engineering

Dates of Test: September 20 to 28, 1972

Manufacturer: UZINA TRACTORUL BRASOV
(UTB) Brasov, Romania

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 54.5 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°/60° 0.8365 weight per gallon 6.965 lb Oil SAE 30 API service classification SB/SE-CA/CD To motor 2.046 gal Drained from motor 1.519 gal Transmission and final drive lubricant SAE 90 Total time engine was operated 46 hours**

ENGINE: Make UZINA Diesel Type 3 cylinder vertical Serial No 17280 Crankshaft lengthwise Rated rpm 2400 Bore and stroke 3.74" × 4.33" Compression ratio 17 to 1 Displacement 143 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner oil bath with centrifugal pre-cleaner Oil filter replaceable paper cartridge Fuel filter replaceable paper element Muffler was used Cooling medium temperature control thermostat

CHASSIS: Type standard Serial No 10206 Tread width rear 47.4" to 75.0" front 50.5" to 78.0" Wheel base 75.6" 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 27.3" Vertical distance above roadway 27.6" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission selective gear fixed ratio Advertised speeds mph first 1.6 second 2.7 third 4.4 fourth 5.5 fifth 9.9 sixth 15.7 reverse 2.2, 7.9 Clutch dual dry disc operated by a foot pedal Brakes contracting bands operated by two foot pedals that can be locked together and by parking hand lever Steering power assist Turning radius (on concrete surface with brake applied) right 119" left 120" (on concrete surface without brake) right 131" left 132" Turning space diameter (on concrete surface with brake applied) right 243" left 245" (on concrete surface without brake) right 267" left 269" Power take-off 540 rpm at 1967 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 codes or official Nebraska test procedure. During the PTO Varying Load run abnormal blow-by and oil loss occurred from the crankcase breather. After the PTO runs were completed it was necessary to add three quarts of oil to refill the crankcase. During the remainder of the test blow-by and oil consumption was normal. Sixth gear was not run as test procedure requires only one speed over 8 MPH. During final inspection the lower compression rings in cylinders two and three were found broken.

Report reissued. Supplemental sales permit for Long U460 with 8 speed transmission, January 15, 1985.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1108.

LOUIS I. LEVITICUS
Engineer-in Charge

K. VON BARGEN
L. L. BASHFORD
T. L. THOMPSON
Board of Tractor Test Engineers