## University of Nebraska - Lincoln Digital Commons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

1-1-1953

Test 508: Case 500

Nebraska Tractor Laboratory Submitted by Larsen Museum University of Nebraska-Lincoln

Follow this and additional works at: http://digitalcommons.unl.edu/tractormuseumlit



Part of the Applied Mechanics Commons

Submitted by Larsen Museum, Nebraska Tractor Laboratory, "Test 508: Case 500" (1953). Nebraska Tractor Tests. Paper 119. http://digitalcommons.unl.edu/tractormuseumlit/119

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 NO. 508, CASE MODEL 500

Department of Agricultural Engineering, University of Nebraska Dates of test: October 5 to October 10, 1953
Manufacturer: J. I. CASE COMPANY, RACINE, WISCONSIN
Manufacturer's rating: Not Rated

And the Control of th	and the same of	AND ADDRESS OF THE PARTY OF THE	the second second
ית דינום	LICE	SEPOWER	THE
Car. I. I		DO PINNED	1 (4) (1)

				BELT I	HCRSEI	POWER TESTS	3				
	C	rank					Wat	used		gF.	
Нр		haft	Fu	Fuel Consumption		use				Barometer	
	S	peed	0-3	77.		T2	0-7	1	001-	A 2	inches
	1.		Gal per hr		hr	Lb per	Gal		ing med	Air	of Mercury
		rpm		the same of the last of the la	gal	hp hour					Mercury
10 00							and the second second			10	1 00 100
63.81		1350	4.042	The same of the latest designation of the la	.79	0.442	0.1	00	199	48	29.120
			T			LOAD - ONE	E HOUR				annie een lee
55.14		350	3.439	16.	.03	0.436	0.0	00	199	55	29,130
	TEST B	E - VARY	ZING LOAD	D - TWO I	HOURS	(20 minute	runs	; last	line a	verag	e)
55.18		350	3.432	16.	.08	0.434	1		198	54	
1.71		470	0.996		.72	4.070			181	53	man contrage
29.03	THE REAL PROPERTY AND ADDRESS OF THE PERSON NAMED IN COLUMN TWO PERSONS AND PE	416	2,220		.08	0.534	-		198	55	
61,72	THE RESERVE OF THE PERSON NAMED IN	298	3.943	15.		0.446	-		198	55	
14.80	The second second second	439	1.611		19	0.760			197	58	
12.47	The second second	383	2.787	15.		0.458	the state of the last of		200	56	20 322
34.15		392	2.498	13.		0.511	0.0	00	195	55	29.133
-				TORQUE	(At D	ynamometer	)				
ENG. RI			72   120		0	1048 96	2 8		314	750	670
LB. FT.	379	9.9   388	.9 398.	1 404.	4 4	11.3 406	.9 40	3.4 40	02.0	385.9	383.3
				DRAWBAR	HORS	EPOWER TES	TS				
	Draw	Speed	Crank	Slip				Water	Ter	mp	
Hp	bar	miles	shaft	of	Fue	1 Consumpt	ion	used		gF.	Barometer
	pull	per	speed	drive	Gal	Hp hr	Lb		Cool.	1	inches
	lbs	hr	rpm	wheels	per	per	per	Gal	ing	Air	
Tribing from				%	hr	gal	hp hr	per hr	med		Mercury
			TESTS F	& G - 10	10% MA:	XIMUM LOAD	- 3rd	Gear			
47.82	7409	2,42	1354	15.89		Not Rec	orded-		186	66	29.000
55.96		3.64	1352	7.66		Not Rec	orded-		195	68	28.970
56,32	4252	4.98	1352	5.17		Not Rec			199	68	29.000
51.99	1 1827	10.67	1357	2.05	L ===	Not Rec	orded-		190	169	28.980
			TEST H -	RATED L	OAD -	TEN HOURS	- 3rd	Gear			
44.24	3302	5.02	1350	4.00	3.08	6 14.34	0.487	0.00	195	71	28.958
TEST J - OPERATING MAXIMUM LOAD - 3rd Gear											
54.61	4262		1353			Not Rec			1 190	176	28.950
TEST K - OPERATING MAXIMUM LOAD - 3rd Gear											
51.19	4470					-Not Rec			1190	174	28.950
The second second		The second second	THE PERSON NAMED IN	The state of the last	THE PERSON NAMED IN			-	A STATE OF THE PARTY OF THE PAR	-	

	Tests F. G. & H	Test J	Test K
Rear wheels			
Type	Cast iron	Cast iron	Cast iron
Liquid ballast	1034 1b each	none	none
Added cast iron	700 lb each	none	none
Rear tires			
No and size	two 15-30	two 15-30	two 14-30
Ply	8	8	6
Air pressure	16 lb	12 1b	12 1b
Front wheels			
Type	Cast iron	Cast iron	Cast iron
Liquid ballast	none	none	none
Added cast iron	none	none	none
Front tires			
No and size	two 7.50-18	two 7.50-18	two 7.50-18
Ply	4	4	4
Air pressure	28 lb	28 lb	28 lb
Height of drawbar	17½ inches	17½ inches	16 inches
Static weight			
Rear end	8950 1ь	5482 lb	5372 1b
Front end	2480 lb	2471 lb	2468 lb
Total weight as tested with operator	11,605 16	8128 lb	8015 lb

FUEL, OIL and TIME Diesel Fuel cetane No 50 (rating taken from oil company's typical inspection data); weight per gallon 6.985 1b OIL SAE 20; to motor 2.940 gal; drained from motor 2.633 gal; Total time motor was operated 40 1/2 hours.

Wheel Base 88" Hydraplic control system driven by continuous running power take-off with independent clutch Advertised speeds mph first 2.69 second 3.70 third 4.91 fourth 10.10 reverse 2.94 Belt pulley diam 13" face 8 1/4" rpm 956 Belt speed 3254 fpm Clutch single plate wet disc operated by hand lever Seat pressed steel with sponge rubber cushion which can swing from side to side and tilt upward Brakes double disc on differential shaft operated by two foot pedals Equalized by locking brake pedals to-gether Power take-off continuous running with independent clutch Steering aided by hydraulic power steering.

ENGINE Make J. I. Case Type 6 cylinder vertical Diesel Serial No. 8032765
Crankshaft mounted lengthwise Head I Lubrication pressure Bore and Stroke 4" x 5"
Rated rpm 1350 Compression ratio 15 to 1 Displacement 377 cu. in. Port Diameter
Valves Inlet 1.375" Exhaust 1.219" Governor variable speed centrifugal Starting
System two 6 volt batteries Air Cleaner oil washed wire mesh Muffler was used
Oil Filter replaceable treated paper element Fuel Filter one fuel tank breather
filter, one fine mesh filler screen, one fuel tank water trap, one edge wound metal
filter removeable for cleaning, one filter with replaceable element and one replaceable sealed filter Cooling medium temperature control thermostat and shutter.

REPAIRS AND ADJUSTMENTS No repairs or adjustments.

REMARKS All test results were determined from observed data and without allowances, additions or deductions. Tests B and F were made with fuel pump set to develop approximately 65 corrected maximum belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively Tests C, D,  $\mathbb{E}$ , G, H, J & K were made with the same setting.

## HCRSEPOWER SUMMARY

		DRAWBAR	BELT
1.	Sea level (calculated) maximum horsepower (based on 60° F and 29.92" HG)	58.55	64.81
2.	Observed maximum horsepower (tests F & B)	56.32	63.81
3.	Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	43.91	55.09

We, the undersigned certify that this is a true and correct report of official tractor test No. 508.

Engineer-in-Charge

BOARD OF TRACTOR TEST ENGINEERS