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January 1922

Test 088: Case 12-20

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT

AGRICULTURAL COLLEGE, LINCOLN.

Copy of Report of Official Tractor Test No. 58

Dates of test: August 14th to 17th, 1922.

Name, model and rating of tractor: Case 12-20.

Serial No. Engine: 44381 Serial No. Chassis 44381

Manufacturer: J. I. Case Threshing Machine Co., Racine, Wisconsin.

Tractor equipment used: Berling F41, Magneto - Kingston "L" Carburetor.

Style and dimensions of wheel lugs: Spade 3" High

BRAKE HORSE POWER TESTS

			:Water Consump.		: Temp.					
			:Fuel Consump.		:Gals. Per Hour		:Deg. F.			
H. P.:	Crank	Time	:	:	H. P.:	In	Total:	C *	:	:
Dev.:	Shaft	of	:	Kind	Gals. Hrs. @:	Cool-	Fuel	:	Cool-	Air
:	Speed	Test	:	of	@	Gal. ing	:	:	ing	:
:	R.P.M.:	Min.	:	Fuel	Hour:	:	:	:	Fluid	:

Humidity
%

Height
of

Perometer

RATED LOAD TEST

20.17	:1048	:120	:Kero.:	2.35:	8.58:	7.26	:10.21:	17.47:	206	:	90	:	58	:	28.25
Belt Slippage 1.94%															

***VARYING LOAD TEST

20.55	:1068	:10	:Kero.:	2.42:	8.44	:	:	:	208.5	:	88	:	:	:	:
20.61	:1045.5:	10	:	"	:2.38:	8.66	:Belt	:	:	208	:	88.5:	:	:	:
0.25	:1226	:10	:	"	:1.15:	0.23	:Slippage	:	:	136	:	89	:	:	:
6.18	:1191	:10	:	"	:1.65:	3.75	:	:1.71%	:	175	:	88	:	:	:
11.48	:1160.5:	10	:	"	:1.87:	6.14	:	:	:	179	:	88.5:	:	:	:
16.61	:1140	:10	:	"	:2.27:	7.32	:	:	:	185	:	90	:	:	:
ver 1307	:1138.5:	:	:	:	:1.96:	5.77	:3.66	:3.30	:6.96	:191	:	89	:	65	:28.80

MAXIMUM LOAD TEST

22.51	:1061	:60	:Kero.:	4.08:	5.52	:0.78	:3.42	:4.20	:192	:	95	:	42	:	28.72
Belt Slippage 2.62%															

HALF LOAD TEST

11.09	:1121	:60	:Kero.:	1.69:	6.56	:0.84	:3.28:	4.12	:130	:	91	:	65	:	28.79
Belt Slippage 1.62%															

*Taken in discharge line from engine.

Remarks: Kerosene used on this test weighed 6.75 lbs. per gallon.

***Last line average for the hour.

Copy of Report of Official Tractor Test No. 83

Drawbar Horse Power Tests

	:	:	:	:	Fuel Consumption:	:	Temp.	Deg.	F.:	:
	:Draw	:Speed	:Crank:	Slip :	:	Water:	:	:	:	Height
H. P.	:Bar	:Miles	:Shaft:	on :	Amt.	:H.P.:	Used :	*	:	Average : of
Dev.	:Pull	:Per	:Speed:	Drive :	Kind :	Per :	Hrs.:	Per :	Cooling:	Air : Humidity : Barometer
	:Lbs.	:Hour	:R.P.M.:	Wheels:	Used :	Hour :	Per :	Hour :	Fluid :	% : Inches
	:	:	:	%** :	Gals.:	Gal :	Gals.:	:	:	:

Rated Load Test, Ten Hours

13.15	:	1703	:	2.91	:	1034	:	13.06	:	Kero.	:	2.82	:	4.55	:	203	:	95.4	:	31.0	:	28.71
-------	---	------	---	------	---	------	---	-------	---	-------	---	------	---	------	---	-----	---	------	---	------	---	-------

Maximum Load Test

13.85	:1900	: 2.73	: 1003:18.65	:Kero.:	Not Recorded	: 204	: 90	: 53	:28.75
12.94	:2225	: 2.18	: 1228:26.65	: "	" "	: 204	: 90	: 53	:28.75

*Taken in discharge line from engine.

Remarks: The rated load test and first maximum tests were run in high gear.

The second maximum test was run in low gear.

** Two figures are given denoting slippage. The first shows the slippage at the rim of the wheel. The second shows the slippage at the points of the lugs.

Oil Consumption: During the complete test consisting of about 31 hours running the following oil was used: For the engine, 5 gallons of Stanolind to fill crank case. None was added. For the transmission, None gallons of 600 W.

Report of Official Tractor Test No. 88.

General remarks:

Just after the rated brake test all spark plugs were replaced by new ones.

During the rated drawbar test the clutch was tightened once.

At the end of the test the compression was weak on one cylinder. Otherwise the tractor was in good working conditions and there were no signs of undue wear.

BRIEF SPECIFICATIONS.

Case 12-20.

Motor, own, 4 cylinder, vertical, valve in head, removable cylinder walls. Bore 4 1/8", stroke 5", rated speed 1050.

Chassis: 4 wheel, disc clutch, 2 speeds forward, 1 reverse. Low 2.2 miles per hour; high 3 miles per hour.

Total Weight : 4450 pounds.

General Remarks:

In the advertising literature submitted with the applications for test of this tractor, we find some claims and statements which cannot be directly compared with the results of this test as reported above. It is our opinion that none of these are excessive or unreasonable.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 88.

E. E. Brackett.

Engineer-in-Charge

Oscar W. Sjogren.

J. D. Parsons.

Fred R. Nohavee.

Board of Tractor Test Engineers.