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5-7-2008

Test007: Case 20-30

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No.7

Dates of	f test		Apr. 1	U to M	lay (;	1920						
Name, r	nodel a	nd rat	ing of t	ractor.	Case	20-4	0					
Serial N			22518					o. Chas	sis Rate	ed Spee	d 475	R.P.
Manufa				A YOU DO NOT THE REAL PROPERTY.						ine Wis		
Tractor	equipi	ment u	sed K.	W: Mod	del H	magn	eto,	Kings	ton Moo	del E	arbur	retor
				neel lug			1 11	inch	es high	h 18t i	inche	long
Style a.	na ann	CHSTOL	15 01 111						8 inc	h exter	ision	rims.
				В	rake H	orse Po	wer Te	ests		1		
	Crank Shaft Speed R. P. M.	Length of Test Min.	Fuel Consumption			Water Consumption Gallons per Hour						
Horse Power Developed			Kind of Fuel	Amount Used per Hour Gallons	Horse Power Hours per Gallon	In Radiator	In Fuel Mixture	Total	*Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Humidity %	Barometric Pressure Inches Mercury
						TED LOAD	TEST					
40.29	482	120	Kero	7.124	5.66	0.04	5.50	5.54	163	64	67	28.3
	Belt	Slip	page	2.25	% .							
					VAR	YING LOA	D TEST					
40.14	480	10	Kero									
40.48		5 "	Ħ									
1.17	496	tt	11									
10.49	-	n	п									
20.44		H	11									
31.22			11							1.		
24.31	487	60	11	4.996	4.87	None	1.82	1.82	167	66	67	28.3
					MAX	IMUM LO	AD TEST					
42.80	473	60	Kero	7.678	5.57	0.07	3.65	3.72	165	62	92	28.4
E	elt S	lippa	age 2.	41 %						-		
					Н	ALF LOAD	TEST					i.
20.57	494	60	Kero	4.644	4.43	0.24	1.60	1.84	169	72	67	28.3
	Bel	t S1:	ippage	1.69	%						1	

Remarks The kerosene used in brake tests weighed 6.71 Lbs. per gallon.

* In the marying load test it was necessary to shut off the water feed to fuel mixture for 0, and 1 loads. The governor hunted at 0, 4 and 2 loads.

Aver

Report of Official Tractor Test No. ____7

Horse Power Developed	Draw Bar Pull Pounds	Speed Miles per Hour	Crank Shaft Speed R. P. M.	** Slippage of Drive Wheels	Fuel Consumption			Water Used	*Temperature	Temperature	Average	Barometric
					ind of Fuel Used	Amount Used per Hour Gallons	Horse Power Hours per Gallon	per Hour Gallons	of Cooling Fluid Deg. F.	of Atmosphere Deg. F.	Average Humidity %	Pressure Inches Mercury
					RATE	D LOAD TEST.	TEN HOURS	(9 Hou	ss 45 Min	ites)		
21.48	3987	2.02	485	4.76	Kero	6.345	3.885	4.44	159.5	57	67	29.0
						MAXIMUM LOA	D TEST (1 st 16	3.2 Ft.,	2 nd 171	.8 Ft.)	
24.66	5537	1.67	450	10.13	Kero	No	Record	ed	154	64	58	28.7
22.71	3273	2.60	430	5.40	п	"	11		156	64	58	28.7

*Telren in discharge line from engine.

**	* For	computing	slipp	age, the	circumfe	rence of	the dri	ve whee	els was	taken	at the	points	of th	e lug
	The 1	rated load	l test	and the f	irst max	imum test	were m	ade wit	h the	tractor	in lov	v gear.	The	secon
maximum	test	was made	with th	he tracto	r in hig	h gear.								**********
	The c	condition	of the	track wa	s better	than usu	al when	these	tests	were ma	ade.			***********

Oil Consumption:

During the com	plete test consisting	of about 40	hours running the follo	owing oil was used:	
For the engine,	12 🖟	gallons of	Mobiloil BB	***************************************	
For the transmissio	on, 11 '	gallons of	Used crank case oi	1.	

Report of Official Tractor Test No. 7.

Miscellaneous Tests: None.

Repairs and Adjustments. Endurance:

The left crank bearing was tightened after 13 hours run.

The spark plug was replaced in the front cylinder after 15 hours run, and the spark plug was replaced in the rear cylinder after about 30 hours run. The plugs removed were still good but apparently were moist which caused the engine to miss fire when it was started up.

At the end of the test the tractor was apparently in good condition. There was no indication of undue wear in any part nor of any weakness which might require early repairs.

Brief Specifications Case 20-40 H.P. Tractor.

Engine: Two cylinder opposed, horizontal, Bore 8-3/4", stroke 9", rated speed 475 r.p.m.
Chassis: Four wheel. rated speeds: low gear 2 mi. per hr., high gear 3 mi. per hr.
Total weight 13780 lbs.

General Remarks:

In the advertising literature submitted with the application for test of this tractor we find the following statement regarding horsepower capacity: "It --- develops a liberal reserve power over its rated horse power." We do not approve this statement for the reason that it is indefinite and therefore likely to be misleading. We also find in this advertising literature some statements and claims which cannot be directly compared with the results of this test as reported above. It is our opinion that none of these statements or claims are unreasonable or excessive.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 7.

Engineer-in-Charge

Board of Tractor Test Engineers.